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Original Articles.

EXTENSION IN THE TREATMENT OF DISEASED VERTEBRÆ.[1]

BY BUCKMINSTER BROWN, M. D.

QUESTIONS have been sometimes asked me in regard to the origin and first employment of extension in the treatment of caries of the spine.

The first case of spinal caries in the treatment of which I have a record of the use of horizontal extension and counter-extension occurred in January, 1864.

At the period referred to the teaching of the highest authorities and of the text-books was that any attempt at extension was unjustifiable, and that the use of any means to prevent pressure together of the bodies of the diseased vertebræ or to separate them, however slightly, rendered a cure impossible. Sir Benjamin Brodie goes so far as to say that in cases where the disease has existed a long time the patient should be "supported by cushions and pillows so that the position in which he is placed may have no tendency to restore the spine to its original figure." He continues: "In the management of these cases it is important that we should always bear in mind that without undue interference on the part of the surgeon the carious or ulcerated surface of the vertebra above will come in contact with that of the vertebra below, and that it is to the union which takes place between them under these circumstances, at first by soft substance and afterwards by bony anchylosis, that we are to look for the patient's recovery. In artificially straightening or elongating the incurvated spine we necessarily disturb this curative process, and therefore all attempts to do so, whether by machinery or by laying the patient in the supine posture on a horizontal board, are to be scrupulously avoided." [2]

Mr. Samuel Cooper, in his First Lines of Surgery, coincides with Sir Benjamin Brodie, and quotes him in corroboration of his own views.

Sir Astley Cooper says "That the mode in which the disease becomes cured is by the upper portions of the vertebræ falling on the lower, and in this way anchylosing. This must be your object in the treatment of this disease." . . . "As to avoiding deformity, that is out of the question; in all these cases deformity is inevitable; whatever you do this cannot be prevented." [3]

"The incurvation forwards," says Lawrence, "is necessary to fill up the deficiency produced by ulcerative absorption." [4]

I was first led to deviate from the instruction of these high authorities in regard to treatment by the occurrence of the case I have mentioned. The patient was a girl seventeen years of age. The disease was in the dorsal vertebræ, and was attended by excruciating pain night and day.

My notes of the case are: "Four vertebræ projecting. Excessive incurvation in lumbar region, to such a degree as almost to throw the body from its balance backward. Constant pain; debility; emaciation. Protuberance and incurvation constantly increasing."

Perfect rest, — immobilization, in fact, — counter-irritants, combined with other measures which have usually brought relief, were of no avail. The pain continued without mitigation.

Thus disappointed it occurred to me that in hip disease, a disease of similar structures to those of the spine, it is the general experience that relief to pain is often, almost uniformly, obtained by extension or by separation, so far as the anatomy of the parts admit, or, at any rate, by preventing pressure on the diseased tissues. From analogy why should not stretching of the muscles and ligaments connected with the carious or inflamed vertebral joints in like manner, by lessening internal pressure, relieve suffering?

In conformity with this theory I applied a padded leather belt around the pelvis. This belt had straps on each side extending from over the iliac bones towards the foot of the bed, terminating in loops. Through each of these loops was passed a cord to which a weight was attached, one on each side. The bedstead being tilted towards the head the upper portion of the body served for counter-extension. Since that time I have sometimes, for this purpose, made use of a padded belt around the chest, below the arms, and attached to the head-board. Soon after the application of the weights the pain was relieved. The directions given were that they should only be used during the day. The relief was so great that the patient requested that the extension should be continued night and day.

In treating these cases it has, for many years, been my plan to have a small pillow or pad placed under the projecting or diseased portion of the spine. This pad serves as a fulcrum. The upper portions of the body above the curvature and the lower portions below act as levers [5] by which the diseased surfaces are prevented from coming in contact, or at least pressure of these surfaces is removed, and the spine is more or less straightened. This fulcrum I had been in the habit of using previously to the case here referred to, and both of these measures have been employed in every case to which they appeared applicable since the date I have mentioned. In the case above described the cure was perfect. My memorandum of this case on July 9th says: "Patient has continued to improve. Has had no pain in back since use of weights. Projection and incurvation have gradually lessened. Has gained flesh rapidly. Is in good spirits. Applied, to-day, spinal body apparatus." From this date she began to sit up and walk.

The patient went out to service, and was afterwards married.

The second case in which I employed this method came under my care in May of the same year (1864). The patient was a girl four years of age. Three dorsal vertebræ were diseased. "Treatment: weights to the hips; counter-extension by means of a strap around the chest, and attached to the head of the bedstead." My next memorandum is dated August 6th. "Spinal protuberance lessened. General health greatly improved."

In this case the result was complete restoration to health.

In 1873 I received a visit from this patient after an interval of nine years. She was in perfect health, had no deformity except slightly rounded shoulders, and this was the only vestige that remained of the disease from which she had suffered.

[1] Under this term, as here used, lateral curvature and kindred affections are not included.

[2] Diseases of the Joints, page 266.

[3] Chelius' System of Surgery, vol. i., page 314.

[4] Supra citation.

[5] Of power proportioned to the thickness of the pad, which should never be very thick.

In cases of disease of the cervical vertebræ the success which has attended extension continued night and day for months has been remarkable both in the complete removal of the curvature and also in the relief and comfort afforded to the patient. In the treatment of caries in this region the straps by which extension is made are an important item. They should be of soft leather, well padded, and carefully fitted to the occiput, and so shaped to the chin as to avoid the liability of slipping back against the throat. Of late I have used head gear similar to that employed by Dr. Sayre in connection with his suspension tripod, and have found it answer well. Where the disease is in the neck or in the cervico-dorsal region the bed should be perfectly level or sloped gently towards the foot.

A recent case, treated during the spring and summer of 1883, was a striking example of the efficacy of continued extension in cervical caries.

The patient was a boy four years old. He was injured in May, 1882, by a sheep butting his head and neck. He was taken up insensible. Unmistakable evidence of disease was not manifested until the succeeding winter. The child when first brought to me, in March, 1883, was never free from suffering. His countenance bore the marks of great distress. His head was thrown backward, the occiput resting upon the upper dorsal vertebræ. So deep was the sulcus thus formed, and so forcibly was the head drawn back, that it was impossible, without the use of unjustifiable force, to insert the finger for the purpose of testing the sensitiveness of the bones. The action of the vesical sphincter was impaired.

The head gear and weight were at once applied with the effect of relief from pain. The neck was gradually elongated, and the head brought to its natural position. The child became playful and happy. From a state of utter misery he was changed to one of enjoyment; laughing and amused through the day, and sleeping well at night. He had a bench placed across his bed, on which were his toys, etc.

I had a pulley attached to one end of one of Dr. E. H. Bradford's steel bed-frames. This frame I have found a great convenience in such cases. On it the child could be moved about, and in summer placed upon the piazza or beneath the shade of trees, and the extension be still continued.

In October, 1883, the patient was discharged from treatment in perfect health, with restored activity, and with a normally straight neck.

During these months the weight had been suspended to his head almost without intermission. In a letter received from his mother in September, she says: "The little boy is doing splendid. So far as I can see his neck and back are as perfect as any one's." Another letter, received February 18, 1884, gives information of the boy's uninterrupted good health.

This is in brief the history of the introduction of the present treatment of spinal disease by extension. By it I know that much has been and much can be accomplished. It certainly appeared to be carving out a new path when these changes were first introduced in the approved methods of treatment. The course of treatment by complete rest and extension which was adopted in the cases above cited is not applicable to every instance of vertebral disease. The judgment of the practitioner must be relied upon in the selection of those cases to which it is appropriate. But I would here testify from experience that the large majority of patients suffering from caries of the spine have a far more favorable chance for complete restoration if such a course is pursued during a certain period of the disease than by any other method. And still more forcibly would I say that cervical disease treated in the way above indicated will be attended by a success as regards comfort and symmetry which cannot be attained by a course which relies upon the use of instruments in the upright position.

I do not intend it shall be inferred from what I have said that the cases related in the previous pages were the first in which extension had been used in the treatment of diseased spine. Samuel Hare, of London, in 1849, and E. W. Tuson in 1841, employed extension in the treatment of spinal disease. R. W. Bampfield in 1845 advocates this measure in excurvation of the spine, under which head he appears to class simple excurvation and also curvature from disease.

But, on the other hand, this writer says: "Instruments for stretching and supporting the vertebral column should not be employed during scrofulous or simple inflammation or caries, or vertebral destruction by absorption; neither should they be resorted to during the regeneration of bone."[1]

During the twenty years more or less which had elapsed from the period of these publications to 1864, the date of the first case related in this paper, the English authorities taught, as we have seen, apparently on theoretical grounds, a course opposed to extension. In America it had not I think been practiced until employed by me in 1864. Horizontal extension was then resorted to primarily for the relief of pain, and I considered it an original suggestion, so applied. The prevention, removal, or diminution of deformity was then secondary, although they have since become equally important, results.

R. Volkman, in a monograph published in 1868, speaks of the beneficial effects to be derived from extension in the recumbent position in caries of the spine, and I am gratified that his experience likewise coincides with mine, especially in regard to the relief from pain frequently afforded by this method.[2]

Reference has been made to the usefulness of a narrow pillow or pad beneath the prominent vertebræ. In this connection I will mention that in hip disease a similar pillow under the pelvis operates likewise as a fulcrum, the trunk being the extending power above and the leg with weight attached to it below, thus tending to prevent contraction at the groin.

The constitutional remedies suitable to these and similar cases have not here been dwelt upon. Attention to this point should on no account be neglected. Every case at some period requires the aid which can be derived from appropriate remedies judiciously administered. Flying blisters, very small, will often lessen the tenderness of the bones and of the surrounding parts, and relieve the costal, gastric, and abdominal pains which almost uniformly attend the earlier stages of the disease. Iron and cod-liver oil will frequently be of service. Stimulants, small quantities of wine or brandy, are required in certain conditions of the system and afford help which can be derived from no other remedy.

The syrup of the lacto-phosphate of lime is a convenient means by which an essential constituent in the

[1] Essay on Curvatures and Diseases of the Spine, London, 1845, page 93.

[2] Gelenk entzündung und Gewichts extension. 1868.

formation of bone can be introduced into the economy in a manner easily assimilated. The discovery of this preparation several years since by M. Dusart has contributed an auxiliary which, theoretically at least, should be of important service in our treatment of diseased bone.

The preparations of lime in some of the various forms in which they are presented to us I had previously employed, but with no gratifying results. Not infrequently the remedy passed through the system unchanged. The lactic-acid solution is readily acted upon by the absorbents, is withal an agreeable medicine, and supplies an element which is required, and the use of this remedy in practice has appeared to be attended with decided benefit.

SIX GENERIC DRUG MODIFICATIONS.[1]

BY HENRY M. FIELD, M. D.

As respects idiosyncrasy in the action of the *alkaline bromides*, a closer analogy obtains with what we observe in the drug just discussed than might be expected when we consider difference both of physiological influence and of therapeutical uses. We can devote but one remark to this subject, however. Professor Duhring distinguishes eight varieties of skin disease as characteristic, in different individuals, of bromide saturation, namely, three varieties of acne, a brownish discoloration of the skin, a simple papular eruption, maculo-papules, bullæ, and rupia. To these Dr. Seguin adds a ninth, which he carefully describes, — a semi-malignant looking ulceration upon the lower part of the leg. Of course these results are mostly confined to the practice of neurologists who use maximum doses, as in epilepsy, cerebral tumor, etc.

I might speak of the propensity of chloral hydrate to "fly to the eyes," as it has been called, — and, indeed, shall have a word on this subject a little later, — and this, after moderate and brief use, producing severe conjunctivitis, etc., and, in exceptionally severe cases, photophobia and œdema of surrounding parts; a phenomenon which is now and then observed in less degree from the continued use of the bromides. Carbolic acid appears to be well nigh controlled by individualism, and to such extent that many writers have questioned whether so powerfully toxic an agent should be used at all, at least to the extent of the production of a perceptible physiological impression.

Here it seems pertinent to introduce the following note: It is generally assumed that idiosyncrasy is a fact both of heredity and transmission, and this is doubtless true; that with various modifications in degree of development, as, for example, an especial prominence at times of weakness or ill-health, it exists as a permanency at least throughout the life of the individual. I have, however, a case at present under observation which shows the actual genesis of an idiosyncrasy *de novo*. My patient is a female of strongly marked neurotic character, made such, indeed, both by inheritance and education. With strong mind and weak nerves, she affords a prominent illustration of that unhappy type in which there appears to be a more or less constant conflict between what has been called the abdominal and the cerebral brain. Four years ago it became necessary to advise the procuring of sleep by a nightly enema of chloral hydrate, in a moderate dose. This was continued for fully eighteen months without material increase in quantity of the hypnotic. It was then stopped, partly because of the appearance of a mild form of conjunctivitis, and accompanying symptoms. After fully two years' suspension, it recently seemed wise again to resort to this measure, and, accordingly, twenty to thirty grains was ordered by enema on retiring. The therapeutic effect was all that could be desired, but at the end of ten days a summons found the patient in a state of great distress. There were conjunctivitis and photophobia, the eyes were nearly closed by surrounding swelling, the face, suffused, red, hot, presented such a degree of œdema that the husband demanded an examination of the urine before he was satisfied that some disease of the kidneys had not set in. Arrest of the chloral for a few days, and then occasional attempts to return to it, established the fact that the case was idiosyncrasic and due to the remedy employed.

I have spoken of carbolic acid as well-nigh controlled by individualism. Busch regards it as "one of those drugs which indeed act well in medicinal doses, but to which certain persons, for reasons as yet unknown to us, are so sensitive that quantities harmless to innumerable other persons act poisonously upon them;" and Köster has the alarming suggestion that the occasion of the report of so few deaths under antiseptic treatment is to be referred to the uncertainty of the symptomatology of carbolic-acid poisoning, in different constitutions, and hence the casualty "is concealed under the names shock, collapse, and similar terms." The dangers of carbolic-acid spray are noted in another division of this paper. Deaths from the use of this material, whether as applied to the surface or introduced into the cavities of the body, under conditions which we have no right to say were not cautious and skilled, have taught us that a remedy so capricious is not to be used, except under circumstances of the strictest limitation.

Death from chloroform in competent practice is largely to be referred to idiosyncrasy; "we waste our labor when we search for proof of heart disease or some flaw in the apparatus or some want of care in the administration." Again, says Hutchinson, "It is probable that there are persons in whom, owing to peculiarity of nerve-organization and not in the least to anything we can recognize as ill-health, the inhalation of chloroform will always cause a depression of the heart's action.

A rather startling experience of my own with sulphuric ether the past winter has interest in this connection. The subject was a patient and friend of twelve years' acquaintance, was of middle age, robust health, good habits, had no disease of heart or kidneys. The ether was pure and given in confidence for the extraction of a small tumor of the fore-arm. Hardly had anæsthesia been reached when a sudden and an apparently paralyzing action was exerted upon the respiratory centre, with the production of symptoms which seemed to demand the immediate suspension of the anæsthetic and involved an incomplete performance of the operation intended.

But once again: We do not need to invade the mysteries of the interior of the body in the search for illustrations of our subject; we have but to observe the varied phenomena of medication applied to its surface. The application of the tincture of iodine to the skin should produce only an erythema, but there are subjects with whom it causes vesication and an extensive

[1] Continued from vol. cx., page 606.

œdema. Now and then, indeed, it seems impossible to cause any impression, however often it may be applied. But remote and profound constitutional effects may follow from what was directed for topical external influence alone. Thus Buckell reports that "in the case of a lady, who had the tincture of iodine very lightly painted upon a tumor between the scapulæ, there appeared pain and a sense of oppression in the epigastric region and also trembling, weakness, profuse sweating, dribbling of urine, and inability to stand erect. The use of stimulants and application of warmth over the stomach caused these symptoms to disappear in a few days." Here there was wide departure from what should be looked for had even the iodine been administered internally and in toxic dose.

I was called within the year to see a female patient who had believed herself for two days to be suffering from an attack of the measles; but when to an extensive eruption, which showed no disposition to disappear, there were added a degree of blindness, confusion of thought, headache, etc., alarm was taken and the physician called. Almost the first condition noted, after the first general survey, was wide and fixed dilatation of the pupils. Inquiry elicited the fact that the patient had been wearing for several days past a four by six inch perforated belladonna plaster to the small of the back, nor did the subject by any means present the usual type of exceptional susceptibility to belladonna.

But it is not alone in the skin as respects medicines applied to the skin; the phenomena of individualism may be encountered within even narrower limits. An inert ointment made of fresh fat, applied with no extreme degree of friction, will develop inflammation of the cutaneous surface with some subjects, whereas the local phenomena attending the application of a mild oleate of mercury are so varied that it is safe to predict nothing with certainty.

So much for idiopathic idiosyncrasy, which, after all, could probably in every instance be shown to be anatomical as well, as truly as in the instance already cited, could we apply the requisite knowledge in our study of the question. It is anatomical, or rather physiological, idiosyncrasy which explains certain of the more familiar eccentricities in the behavior of iodide of potassium; the usual rapid, exodic elimination does not obtain; the salt is brought back by the salivary glands, and in the nasal and bronchial mucus, to be reabsorbed or again swallowed, and thus a kind of *vicious circle* is soon set up with attendant coryza, foul breath, foul taste, etc. Had we a more intimate knowledge of that wonderful congeries of ganglia and connecting nerve filaments, the solar plexus and its associated systems, — wisely called by the ancients *cerebrum abdominale*, — we might often avert or control what is now unexpected, disastrous, or inexplicable in the operation of our more powerful remedies.

With this we must leave what for lack of a better name we call idiopathic idiosyncrasy; there is also what Mialhe has happily designated a *chemical idiosyncrasy*, due to "difference in composition of the animal fluids." The very opposite behavior of subnitrate of bismuth was for a long time a problem with therapeutists. Usually producing the local sedation for which it was given, it would occasionally be speedily followed by violent irritation and even inflammation of stomach and intestines. The theory that such action was due to admixture of arsenic did not abide results of investigation; but it was not until attention was directed to the varying reaction of the gastric mucus that the mystery received explanation. An excessive quantity of acid present in the stomach is capable of causing the conversion of the "intrinsically harmless basic salt into the corrosive neutral body; or, in consequence of the action of water upon the latter, into the poisonous acid salt."[1] These are active poisons, capable, as Orfila showed in his experiments upon animals, of producing intense gastro-enteritis.

The operation of calomel presents great variety. It has not been always safe, in my experience, to order so small a dose as one twelfth grain repeated every two hours; this minute quantity, so taken that the aggregate hardly exceeded one half grain, has more than once caused symptoms that simulated cholera morbus, — and this in the case of a vigorous man. Here we must suppose there is fault in the proportion of intestinal alkali and common salt. It has been observed that in patients "who have been long kept upon a low diet calomel has almost no effect, because in consequence of the excessive use of food in a liquid form the greater part of the chloride of sodium has been already washed out of the body." On the other hand, Mialhe asserts that persons who have long lived on a salty diet, as sailors, are "peculiarly sensitive to the action of calomel, and may present exceedingly intense local irritative effects in the intestines as well as a number of other unpleasant effects of mercury." Further, Radziejewski has shown that the long-continued use of calomel may be followed by unpleasant consequences; the drug having accumulated in the cæcum, and having been then brought in contact with chloride of sodium or ammonium, is converted into corrosive sublimate, and corrosion or ulceration follows.[2]

The occasional dyeing of the skin, the peculiar slaty-gray color, which may attend the continued ingestion of silver nitrate, affords a familiar illustration of chemical idiosyncrasy: perhaps there is no other instance where the measure or conditions of its determination have been established with any approach to certainty. Many authors state the time beyond which it is not safe to go, but within the limits of which the metal can be used continuously with reasonable assurance of safety; and it is claimed that thirty grammes, ʒvijss, is the smallest quantity of silver which has been known to produce argyria.

The patient, into whose scrotum I rubbed the oleate of mercury for swelled testicle, presented melancholy evidence of chemical idiosyncrasy for many days thereafter. I did not know that the part had been previously painted with iodine; but the mercury was not slow in discovering the fact, and a very aggressive red iodide of mercury was formed, — as it appeared, penetrating deep into the tissues, — which accomplished about the most effective and protracted counter-irritation that I ever witnessed.

Secondly. It is convenient to group together certain conditions of drug-modification under the section *Cos-*

[1] Lewin.

[2] That should not be imputed to chemical idiosyncrasy which, in time and place, owes its origin, afar from any contact with the patient, to the previous chemical change of the calomel through carelessness of physician or apothecary. It is well to follow the rule that the physician's calomel should be carried in a tightly-stopped vial and unmixed with any other substance. Calomel may pass into the corrosive chloride in presence of the alkaline earths; this should be remembered in combining with magnesia, as is sometimes done. Analysis of calomel pastiles, having sugar for their basis, disclosed a considerable quantity of sublimate. Probably the sugar was "raw;" still it is safer to avoid sugar altogether in preparing calomel powders unless the latter are to be taken forthwith.

mic Conditions, and, still for convenience, in this class to consider the more personal influence of habit. Whatever pertains to latitude, season, temperature, race, etc., must be glanced at in this department. Such general relation is abundantly recognized in the rude medical practice of our forefathers, whose intricate and often mystic ceremonies, both in the collection and the prescribing of their remedies, were quite possibly, in a given case, based alike upon the age of the plant, of the moon, and of the patient. Gubler insists that "cosmic conditions" should be considered in the ordering of so common a remedy as cod-liver oil; which may readily be taken in the cold of winter by the same subject who is wholly unable to continue it through hot weather on account of the disturbance which a fatty substance then occasions, both in the stomach and bowels. Lisfranc says that, of barium chloride, much larger doses are borne in warm climates than in colder regions. The great majority of lead-poisoning cases occur in the summer months, possibly because the metal is largely eliminated by the kidneys, and the functional activity of these organs, in respect of the skin, is then considerably in abeyance.

Again, ethnic conditions present a curious study for the physician. Here, clinical observation has already done somewhat for us; and, in respect of the more familiar remedies, we may know what modification of dose to make, what modification of effect to expect, when we are dealing with a pronounced type, for example, a subject of the Negro or Mongolian race. But while so much in this direction remains undetermined or obscure, we may be pardoned if we look this way for light upon certain questions which, otherwise viewed, seem hopelessly involved. The *Coca erythroxylon* in its effects upon the Indian of South America, as narrated by Von Tschudi and other travelers, would appear to be the very type of a dynaphor. Under its moderate influence the body continues in a state of contented and healthful activity, although the hour for sleep has long since passed and the hour for eating has been more than once pretermitted.[1] Here would seem to be the grand corroborant for the man worn by our modern life conditions, who, out of all his food and sleep, cannot get force enough to carry him through his daily duties with any proper amount of comfort and energy.

But the result of the trial is largely a failure, though it must be acknowledged that, rarely, we get a response which encourages us to persevere with the remedy; and the disappointed practitioner turns upon the South American traveler with the charge of extravagant statement or absolute untruth. That Von Tschudi's statements are extravagant it may be allowed, but they are not thus disposed of. The historical fact remains that when the coca leaf was "first introduced into Europe its marvelous effects encountered a great incredulity; they were attributed to the power of a demon, and coca had the honor of being condemned, successively, by the Jesuit fathers, by the Council of Lima, and by his Catholic Majesty." Doubtless we seldom or never receive the drug in form calculated to display its full effects;[2] but the question is pertinent whether there may not be involved in the earlier observations a very prominent consideration of race, both as respects the aborigine and the volatile, excitable nations of Southern Europe.

Again, we are tempted to ask whether the passage of the years — of the centuries — may have introduced some material modification into the action of remedies which are now regarded as practically valueless, but which our forefathers invested with superior qualifications. Where lies the responsibility for the extraordinary change we note? Is it in the plant, or in man, or in both? Could it have been our saffron — the familiar, largely discarded saffron of the present year of grace — which so eminent a therapeutical authority as Murray extols as equivalent to "opium and wine in combination"? Must it all be ascribed to mingled superstition and ignorance, or to simple long-established prepossession, when the school of Salernum puts its often-quoted aphorism in emphatic interrogative form, How can the man die who grows sage in his garden? ("Cur moriatur homo cui crescitur salvia in horto?") Can this *salutary* sage be nothing more than the *Salvia officinalis* of to-day, more valued in culinary than in medical art?

The modifications occasioned by *habit* are so great that it is not too much to say of the man who, from long habituation as to alcohol, to opium, finds himself literally bound to continue in his accustomed indulgence, — it is not too much to say of him that he is a *changed man*; so changed in certain physical conditions, and it may well be in moral nature also, that it is well-nigh hopeless that he should be comprehended. The friend who, from interest, duty, affection, should extend the helping hand cannot understand him, does not and cannot occupy common ground with him. Hence the helplessness and mischief of much that passes for temperance reform. There would seem to be an essential element in all these cases, as Lewin has pointed out, a craving for the forbidden drug, as one will crave common salt, after long abstinence from it; "just as this, an essential constituent of the body, must be supplied, so has the drug from its habitual use become an integral element for certain organs, and its omission is resented in the same way as would be that of any other elementary constituent of the body." But in an important sense *not* "*in the same way*:" the man who is starved for his food is a wretched sufferer, doubtless; the habitué who is starved for his opium endures a wretchedness which, fortunately, common human experience knows nothing of.

Again, a drug habit will modify the action of other toxics; thus alcohol acts badly with one accustomed to chloral hydrate, and *vice versa*.

A very singular experience is occasionally presented by both the votary of tea and of tobacco, which must probably be referred to the conjoined influence of habit and idiosyncrasy, a fact well-nigh unparalleled in what we observe of the action of other neurotics, although arsenic, in continued medicinal use, may illustrate remotely the same principle. Says Professor Hutchinson: "A man who has drunk tea all his life, and largely, may rather suddenly find that it is almost poisonous to him." So also tobacco with an individual who has used it, it may be, "without any excess, and who has been for a long time thoroughly habituated to it," may all at once begin to act as a poison without causing any distaste or any conspicuous derangement. These subjects are often quite unaware of what it is that is hurting

[1] Indeed, I think I have observed in my own person, in an experience of a daily dose of coca taken for several weeks, an hour before dinner, that, in addition to the sustaining effect which attends its action, the desire for food, the sense of hunger, otherwise existent, is removed for some time.

[2] The drug house of C. F. Rogers, Newton, has recently procured a specimen of coca leaf and prepared a fluid extract, the latter of which is more satisfactory to me than any pharmaceutical preparation of the drug I have yet come across. But I am satisfied, that to get the full effect, the dose should be larger than it is generally stated.

them. They lose appetite and become nervous, and among the most conspicuous symptoms is a very marked failure of sight." There is reason for belief, by the way, that this tobacco amaurosis is most likely to appear in such as originally presented an especially marked idiosyncrasy against tobacco, and in whom the struggle was especially severe and long before the system could be brought to receive it without protest.

(To be concluded.)

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

TENTH ANNUAL MEETING. HELD AT NEW YORK JUNE 18, 19, AND 20, 1884.

SECOND DAY. AFTERNOON SESSION.

ENCEPHALIC NOMENCLATURE.

THE discussion of Professor Wilder's paper on Macroscopic Encephalic Nomenclature being in order, DR. WILDER debated the three principal arguments which he said had been urged against the adoption of the nomenclature which he proposed. These were (1) that some of the terms now in use were indicative; (2) that some were commemorative; and (3) that most of them were familiar. He then read three resolutions, two of which committed the Association to at least a partial adoption of the new nomenclature, which he said would be brought up for discussion at the proper time. Remarks were made by DRS. DANA, BIRDSALL, and WILDER, and, on motion of DR. WM. A. HAMMOND, the resolutions read by the latter were made the special order for miscellaneous business at the next session.

DR. J. LEONARD CORNING, of New York, was elected an active member of the Association.

DR. GRAEME M. HAMMOND, of New York, read a paper entitled

CAN LOCOMOTOR ATAXIA BE CURED?

From time to time, he said, reports of cases cured had been presented to the profession, many of them by men of the highest reputation, and the question therefore arose, Are these true cases of ataxia, or is there some other morbid condition of the spinal cord, which, when present, gives rise to symptoms similar in every respect to those resulting from sclerosis of the posterior columns? He then read the histories of a number of cases which he had collected, after which he passed them in review somewhat as follows: The first case mentioned (which he had presented as cured at the last meeting of the Association, and now again brought before it in person) was certainly a complete cure, and with a single exception (a case reported by Dr. Schultz, of Heidelberg) was the only one in which the tendon reflex had been restored. In the third case there was a complete cure except that the tendon reflex had never been reëstablished. If this was not one of those exceptional cases in which there never was any tendon reflex, this was conclusive proof that some morbid pathological condition still existed in the spinal cord; whether sclerosis, congestion, or something else, no one could tell. In Schultz's case sclerosis existed in both the lumbar and dorsal regions, and yet the patella tendon reflex was present in both legs. It was necessary to conclude, therefore, that the deep reflexes were not always, if ever, transmitted, as was commonly supposed, through the posterior columns, but sometimes passed through the posterior horns of gray matter. A case reported by Desnos, with autopsy, showed that all the symptoms were due to congestion, and it would seem that the symptoms in Schultz's case were attributable to the same cause. A case of Dr. Henry Lyman's, reported in the *Chicago Medical Journal and Examiner*, which was greatly improved by dry cupping and the use of Junod's boot, was undoubtedly relieved by the dissipation of the congestion in the cord. His conclusions were as follows: —

(1.) The absence of the patella tendon reflex in locomotor ataxia is not always caused by sclerosis of the posterior columns.

(2.) Sclerosis of the posterior columns may exist without being accompanied by the ordinary prominent symptoms of ataxia.

(3.) Congestion of the posterior half of the spinal cord may give rise to most, if not all, of the symptoms of locomotor ataxia.

(4.) It is impossible during life to make a differential diagnosis between posterior spinal sclerosis and posterior spinal congestion.

(5.) Posterior spinal congestion is curable.

(6.) There is no evidence to show that sclerosis, once existing in the spinal cord, has ever been removed.

(7.) Those cases of so-called locomotor ataxia which have been cured are simply cases of spinal congestion, more profound in the posterior half at the cord.

DR. WM. A HAMMOND related a remarkable case of cure of apparent locomotor ataxia, with most extreme lancinating pains and loss of tendon reflex, which was entirely cured within a month. As there was a suspicion of syphilis, anti-syphilitic treatment was at first adopted; but this not affording any relief, nitrate of silver was substituted for it, with codeia at night to secure sleep. He did not know how to explain this case except on the hypothesis of congestion.

DR. S. G. WEBBER said that he had reported two or three cases in which tendon reflex was restored in patients who had had all the symptoms of locomotor ataxia. He also mentioned one case of supposed ataxia, reported by Déjerine, in which the autopsy showed that the real pathological condition was multiple neuritis. He was disposed to doubt whether hyperæmia of the columns of the cord could continue for weeks and months without giving rise to organic changes, and thought that such a condition was, at all events, not yet proven. The discussion was also participated in by Drs. Rockwell, Corning, Massey, Mills, Bannister, Birdsall, and Bartholow, and the latter stated that he believed that the process of sclerosis in locomotor ataxia could be arrested by chloride of gold, although it had no effect in restoring parts that had already been lost.

DR. S. G. WEBBER, of Boston, read a paper on

MULTIPLE NEURITIS.

Having referred to the cases that had been reported by various authors and the bibliography of the subject, he said that up to this time he had found the records of six cases without autopsies and twelve cases with autopsies. He then proceeded to give the detailed histories of four cases which had been under his own care, two of which proved fatal. In one of these the patient

was nearly moribund when admitted to the hospital and died within two days, and the other lived for seventeen days after admission. Specimens from the latter exhibiting degeneration of nerve tissue were shown under the microscope. During the autumn and winter of 1883 and 1884, no less then eighteen cases of multiple neuritis entered the Boston City Hospital, fourteen of which came under his own observation. He also saw one case in private practice, and a second case in which the diagnosis was somewhat doubtful between this disease and infantile paralysis. Of the nineteen undoubted cases ten were males and nine females. There were three deaths in all. Disturbance of sensation was one of the most constant and prominent symptoms, and the pain, differing greatly in severity in different cases, was variously described as aching, boring, shooting, and burning. There was also, as a rule, marked hyperæsthesia of the skin and tenderness of the muscles as well as over the nerve-trunks. Motion was early disturbed. At first there was stiffness, and afterwards paralysis, more or less complete. The limbs became contracted, semi-flexed, and sometimes the contractions were extreme. The electrical reactions of the muscles and nerves showed the changes due to their respective degeneration. The various tendon reflexes were generally absent, while the cutaneous reflexes were less disturbed. The temperature and pulse were rather elevated in the earlier stages of the disease, and in the two fatal cases throughout the period when they were under observation. There was atrophy of the muscles, and in some patients great general wasting of tissue. In others there was œdema of the limbs and even of the face, and some had excessive sweating, which made the cases simulate rheumatism. The disease began in the legs, and was sometimes confined to them.

Now that the peculiar symptoms of multiple neuritis had been clearly marked out, the diagnosis was not difficult in well-marked cases, but in light cases might be difficult. Dr. Webber then pointed out the differential diagnosis between it and anterior poliomyelitis, progressive muscular atrophy, lead paralysis, rheumatic fever, and spinal meningitis. Having mentioned that Scheube had found neuritis in every case of the disease known in Japan as kakke, which he believed to be due to a specific poison, and that recently Dr. J. B. de Lacorda had claimed to have discovered the bacillus of beri-beri, he went on to say that the pathological process in multiple neuritis was generally believed to be an inflammation of the nerves, although Erb had suggested that the phenomena noted might be dependent on central disturbances. He then described the degenerative changes in the nerves, and also referred to the pathological conditions found by Gombault in rabbits, in which he produced neuritis artificially. His conclusion was that, considering the changes found about the annular constrictions, it was reasonable to consider the disease a neuritis, not dependent upon changes in the spinal cord. In most cases the patients recovered more or less completely, but recovery was very slow in severe cases.

He was not sure, he said, that any treatment shortened the attack. Salicylic acid seemed to cut short the pain in some instances, and when it returned it was not quite so severe. It was necessary to give morphia to relieve pain. A four or five per cent. solution of carbolic acid applied on cloths to the painful limbs was of decided advantage. Lister's seemed to be of advantage in two or three instances, especially in a case where the hyperæsthesia was very persistent. He thought it well to try to avoid or diminish the extent of the contractions by gentle extension or position of the limbs, a sand-bag to rest the feet against, etc., as the contractions were difficult to overcome. To do so required a persevering use of massage, extension, and electricity.

DR. ROCKWELL said that in a case of neuritis that he had had, the repeated application of the actual cautery to sensitive points all over the body afforded very marked relief; but he could not say whether it had any ultimate effect upon the course of the disease, as the patient passed from out of his observation.

DR. R. W. AMIDON, of New York, presented the brain taken from a patient suffering from Word-Deafness and Blindness, without Paralysis, and DR. ROBERTS BARTHELOW, of Philadelphia, read a note on

SOME USES OF THE CHLORIDE OF GOLD AND SODIUM IN NERVOUS AFFECTIONS.

He preferred the double chloride of gold, on account of its much greater diffusibility than the simple chloride, and used it in doses of one twentieth of a grain two or three times a day. It was an alterant, or, as this class of agents were now more properly called, a promoter of tissue metamorphosis. It was also a good tonic, and increased the number of red blood globules; but its chief effect was upon connective tissue. Hence, in pathological conditions in which the connective tissue was involved, it was likely to be of service. In sclerosis of the posterior columns of the spinal cord he did not claim that the patient could be restored to the *status in quo*, but his experience with it had been such as to convince him that by means of it the disease could often be arrested. Its effect in fibroid kidney was sometimes remarkable. He had also found it of benefit in asthma, laryngismus stridulus, and other forms of spasm, in sexual debility, and in hypochondriasis.

THIRD DAY. AFTERNOON SESSION.

COMMITTEE ON ENCEPHALIC NOMENCLATURE.

The following resolution, prepared by DR. WILDER, was adopted: "*Resolved*, that there be appointed by the chair a committee of five on macroscopic encephalic nomenclature, with instructions to report at the next meeting a list of such terms as in their judgment may be properly recommended for use;" and the President appointed the committee as follows: E. C. Spitzka, Chairman; Burt G. Wilder, T. A. McBride, W. A. Birdsall, and L. C. Gray. On motion of Dr. Bartholow, the other two resolutions of Dr. Wilder were referred to this committee.

The President, DR. ISAAC OTT, of Easton, Penn., read a paper on

THE RELATIONS BETWEEN INJURIES OF THE SPINAL CORD AND THE EXCRETION OF CARBONIC ANHYDRIDE.

By means of Arsonval's calorimeter and Voit's respiration-apparatus, he had made a series of experiments upon the lower animals, and had arrived at the conclusion that injuries of the cord produce, as a rule, an increase of the excretion of carbonic anhydride. It did not seem to make any difference whether the gray or white matter, or both together, were injured; the increase ensued just the same. Although the calo-

rimeter was kept at 100° F., in only two cases out of seven did he see any increase of temperature. In all the others it fell below normal.

After some discussion of this paper. Dr. G. L. WALTON, of Boston, read a paper entitled

A CONTRIBUTION TO THE STUDY OF HYSTERIA BEARING ON THE QUESTION OF OÖPHORECTOMY.

We should limit the question of oöphorectomy, he said, to those cases in which the hysteria is secondary to abdominal trouble, and carefully exclude those in which the menstrual irregularities and ovarian tenderness are secondary to the hysteria. The most plausible explanation of hysterical hemianæsthesia (common after ovarian irritation) is that of spasmodic contraction of the cortical blood-vessels of the brain, suspending the function of the cortical nerve cells through lack of nutritive fluid. This theory explains best, for example, the rapid onset and disappearance of the symptoms; for we know that a thought is sufficient stimulus, and one instant sufficient time to cause the most extreme changes in the calibre of blood-vessels, as is instanced in the blush on the one hand and the pallor of fear on the other. That such sudden changes take place in the brain as well as the integument is shown by the phenomenon of fainting, in which the cerebral functions are entirely suspended, presumably through lack of blood. The transfer of anæsthesia from side to side with succeeding oscillations is suggestive of the ebb and flow of a fluid. That vaso-motor irregularities are common in hysterical patients in other parts of the body as well as the brain is evidenced by the frequency of chills, flushes, and ischæmia, sudden swelling of the joints, etc. Weight is thrown in favor of this theory by the case published in a paper by the author on Oöphorectomy in Hysteria, in the *Boston Medical and Surgical Journal* of June 5, 1884. In this case right-sided hemianæsthesia coincided with left-sided angio-spasmodic migraine and left-sided intermittent retinal ischæmia (the blood-vessels of the right eye being normal). The only explanation to be offered was that spasm of blood-vessels by implicating the membranes caused the pain, by extending into the cortex the hemianæsthesia of the opposite side, and by extending to the eye evidenced itself in the abnormal contractility of the retinal vessels of the same side. The starting-point in this case was pelvic disease, probably by irritation of the sympathetic nerves supplying the ovarian region. In favoring this theory, he said, we are dealing with a tangible phenomenon of which we have constant examples, and cannot be accused of a flight of imagination. Dr. Walton has failed to produce "transfer" in hysteria secondary to pelvic disturbance, but has observed it frequently in cases of constitutional hysteria. This is probably because the unilateral spasm is kept up in the one case by the organic trouble, while in the other the sympathetic irritability is alike on both sides of the brain, so that while the vessels are contracting on one side they are dilating on the other. In conclusion, the case of Miss A. (of which the principal points of interest were given in the paper already referred to) was reported in detail. It was operated on by Dr. Barss; the removal of both ovaries being followed by marked improvement in hysterical convulsions and hemianæsthesia of thirteen years' standing.

A lengthy discussion followed the paper, which was participated in by Drs. Spitzka, Mills, Putnam, Rockwell, and (by invitation) Mary Putnam Jacobi. In closing the discussion Dr. Walton said that hardly any one could be more conservative than himself in regard to the operation, except some one who was opposed to it under any circumstances whatever, since it was only in cases in which the hysterical symptoms were obviously secondary to pelvic disease that he would recommend it. One cause why the relief had not been greater in his case was, he thought, that the Fallopian tubes were allowed to remain. Tait had repeatedly found that menstruation was very apt to continue unless the tubes, as well as the ovaries, were removed, although this was not the case here. Still, but a comparatively short time had as yet elapsed since the operation, and he trusted that the improvement would gradually become more marked. He agreed with those who believed that hysteria was almost always of central origin, and that it was only in a comparatively few cases that it was dependent on uterine or ovarian conditions.

DR. J. J. PUTNAM read a paper upon

THE MEDICO-LEGAL SIGNIFICANCE OF TYPICAL SO-CALLED HYSTERICAL SYMPTOMS OCCURRING IN MEN AFTER RAILWAY AND OTHER INJURIES.

When a claim is made for damages after concussion-accidents which leave no objective sign of disease, the first point to be settled is with regard to the claimant's trustworthiness.

The discovery of typical symptoms of hemianæsthesia, affecting the skin and special senses (field of vision, color-sense, etc.), should go far towards establishing veracity, because these symptoms are not such as the patient could simulate without careful preliminary study, while, if taken together, they form a distinct picture of hysteria. The reader had reason to think that these symptoms are by no means rare, and reported one well-marked case.

The question then arises whether the diagnosis of hysteria should be put forward by the plaintiff or not. The reader thought it often advisable to do this, in order that the medical aspects of the case should be discussed on their true merits.

Hysteria is sometimes a trifling, but sometimes a very serious, disease, and it is well that lawyers and juries should realize that fact.

DR. DANA said that he fully recognized the difficulties to which Dr. Putnam had alluded. A great deal of confusion had been thrown on the matter by Erichsen, and he thought that it would be of great benefit if some authoritative statement could be made of the relative value of Erichsen's and Page's opposing views. There was one point to which Dr. Putnam had not referred. Hysteria was, no doubt, a serious disease, but the question arose in every case such as he had described whether the symptoms were really due to the accident, or were excited by the hope of reward. He had not found the existence of hemianæsthesia in males, as Dr. Putnam had. In conclusion, he mentioned one objective symptom which he thought might be of some value, and that was electric resistance, as tested by the galvanometer.

DR. PUTNAM said that he believed that this whole subject ought to be reopened from a different point of view than that from which it was now regarded. The slightness of the injury did not seem to be of much consequence. In his own case the injury had been slight, and yet from the very first day the patient had been seriously affected. No thought of obtaining dam-

ages, he believed, could have had any effect in originating the hysterical trouble in this instance. He advised that sensibility should be tested in all respects for hemianæsthesia, the special senses as well as the skin. Having referred to the question of atrophy in this connection, he said that he agreed with Dr. Dana that electrical resistance was an important point.

DOUBLE HEMIPLEGIA.

DR. SARAH J. MCNUTT, of New York, read the report of a case (with specimen) of double hemiplegia in a child, in which there was extensive atrophy of the cerebral cortex, the disease being pronounced by Dr. William H. Welch to be sclerosis of the greater part of the motor tract, with degeneration of the pyramidal tracts.

THIRD DAY. EVENING SESSION.

DR. W. A. BIRDSALL, of New York, read a paper on

OPHTHALMOPLEGIA EXTERNA PROGRESSIVA,

in which he reported two cases of slowly progressive paresis of all the external muscles of both eyes, producing ptosis and nearly complete immobility of the eyeballs, with complete preservation of the functions of the internal ocular muscles, accommodation being normal, and reaction of the iris to light and accommodation movements also normal. There was no heredity and no suspicion of syphilis. Slow improvement occurred in one case under large doses of iodide of potassium, and in the other under the use of the same drug and faradization of the eyes. Dr. Birdsall believed the affection to be one of the nuclei of the sixth, fourth, and parts of the third nerves, which supply the external ocular muscles, these parts representing an associated system. Degeneration within this system of associated muscles, nerve tracts and centres, similar to the degeneration of progressive muscular atrophy and of labio-glosso-pharyngeal paralysis, as suggested by Hutchinson in similar cases, appeared to be the most consistent theory of the pathology.

LOCOMOTOR ATAXIA AND SYPHILIS.

Some statistics in reference to the relative frequency of locomotor ataxia in syphilitics, which were sent by Dr. E. C. Seguin (who was confined to the house by illness), were read by DR. BIRDSALL. There were seventy-two cases in all, and of these twenty-two, or 30 per cent., had had chancre, and sixteen, or 22.2 per cent., chancre followed by secondary symptoms. In fourteen cases, or 19.8 per cent., there had been neither chancre nor secondary symptoms, and in twenty, or 28 per cent., there was no mention made of syphilis. Statistics and remarks upon them were also offered by Drs. Birdsall, Spitzka, Rockwell, Putnam, and Webber.

DR. C. L. DANA, of New York, read a paper entitled

FOLIE DU DOUTE AND MYSOPHOBIA.

He referred to the history of *folie du doute*, or the "doubting madness," in which the patient was harassed with a constant desire to question, speculate, and refine over details. His mind was never settled, but was in a condition of "pruritus." It was a psychopathic symptom, which indicated that the patient was a monomaniac, and truly insane, or only hypochondriacal, or profoundly neurasthenic and hysterical. Mysophobia, or fear of contagion, was a symptom indicating probably a similar condition. *Folie du doute* had been divided by Ball into several varieties, such as the suspicious, the calculating, the timid, and, finally, the tactile, and mysophobia had been classed as the tactile form of *folie du doute*. This classification was, perhaps, open to criticism, but Dr. Dana was inclined to think it was correct. He then related in detail two cases: one a typical one of *folie du doute*, as described by Fabret, Ball, and others, and the second a case of mysophobia, as first described by Hammond.

DR. SPITZKA said that the class of patients described by Dr. Dana, although of perfectly sound mind in all other respects, were suffering from *bona fide* insanity. In males the principal cause was masturbation.

OTHER PAPERS.

DR. G. BELTON MASSEY, of Philadelphia, read a paper entitled A Case of Sudden Loss of Vision following Anæsthesia of the Fifth Nerve, with Remarks on the Modifying Effect of Anæsthesia on the Galvano-Reactions of the Special Senses.

Among the other papers presented were one by Dr. George W. Jacoby, of New York, on Cerebro-Spinal Saturnism, and a communication from Dr. John J. Mann, of Newport, R. I., accompanied with seven photographs taken for the purpose of showing the impossibility of mistaking the auditory for the trigeminal region in the medulla oblongata of reptiles. A memorial of the late Dr. George M. Beard was also presented by Dr. Dana, who, with Dr. C. K. Mills, of Philadelphia, was last year appointed on a committee for that purpose.

During the meeting Dr. Danillo, of St. Petersburg, and Dr. Auguste Forel, Professor of Psychiatry in the University of Zurich, Switzerland, were elected associate members of the Association.

ANNUAL MEETING OF THE CENSORS OF THE MASSACHUSETTS MEDICAL SOCIETY.

ALBERT N. BLODGETT, M. D., CLERK.

THE annual meeting of the Censors of the Massachusetts Medical Society was held at 19 Boylston Place, June 10, 1884. There was a fair representation of the District Societies by delegates. DR. C. HOWE, of Bristol North Society, was elected chairman. The records of the last annual meeting were read and approved.

THE METHOD AND STANDARD OF EXAMINATION OF CANDIDATES BY THE SEVERAL BOARDS OF CENSORS.

The clerk announced that the committee which had served the Society for the past two years had prepared a final report, which had been forwarded to the meeting, as the chairman of the committee had been unavoidably detained from the meeting. The clerk was requested to read the report, which was as follows: —

The committee appointed at the Conference of Censors, held June 11, 1883, "for the purpose of watching the results of their action during the past year," respectfully submits the following report: —

In April a circular, a copy of which is herewith submitted, was mailed to the secretary of each District Society. Answers have been received from fourteen districts, namely: Barnstable, Berkshire, Bristol North, Bristol South, Essex North, Essex South, Hampden, Hampshire, Middlesex East, Middlesex North, Middlesex South, Norfolk, Plymouth, and Suffolk. No re-

sponse has come from Franklin, Worcester, Worcester North.

The answers are appended to this report, together with copies of the questions used in written examinations in several districts.

It appears that written examinations are used wholly or in part in nine of the districts heard from, namely: Barnstable, Bristol North, Essex South, Hampden, Middlesex East, Middlesex North, Middlesex South, Plymouth, Suffolk, and Worcester North. The examinations are wholly oral in five districts, namely, Berkshire, Bristol South, Essex North, Hampshire, and Norfolk. It will be remembered that the By-laws of the Society require that a part of the examination shall be in writing. For the committee,

J. T. G. NICHOLS, *Chairman.*

(Circular.)

MASSACHUSETTS MEDICAL SOCIETY.

DR. ——

Secretary —— ——, *District Society.*

The committee appointed at the conference of Censors, held June 11, 1883, respectfully asks an early answer to this question: What, if any, changes have been made by your Board of Censors during the past year in the method of examining candidates for admission to the Society? Will you forward a copy of questions used in written examinations, if such have been held?

The committee urges your Board to send delegates to the next conference of Censors, reminding you that, as its name implies, it is a meeting for discussion only.

J. T. G. NICHOLS, Middlesex South.
GEORGE C. MCCLEAN, Hampden.
BENJ. H. HARTWELL, Worcester North.
Committee.

(Replies.)

BARNSTABLE DISTRICT.

YARMOUTH PORT, MASS., *May* 1, 1884.

DR. NICHOLS:

Dear Sir, — In reply to your circular I would say that our Board of Censors (Barnstable District) have made no change in their method of examining candidates for admission to the Society, for if a man can pass the Censors in *this* District I think he could in *any*. Each examiner asks as many questions as he chooses, one half of which are in writing. Every branch is touched upon, and a man has to be well posted in order to pass the Board of Censors for Barnstable District.

Very respectfully yours, S. F. HASKINS, M. D.,
Secretary Barnstable District Medical Society.

YARMOUTH PORT, MASS., *May* 9, 1884.

DEAR DOCTOR, — I have n't a copy of any questions used by the Censors in their examinations, as we have written them at the time of making the examination, and never have preserved them.

We always give the candidate about twelve written questions and as many oral ones as we may please.

Very truly yours, S. F. HASKINS.

DR. J. T. G. NICHOLS, Cambridge.

BERKSHIRE DISTRICT.

PITTSFIELD, MASS., *April* 27, 1884.

DR. J. T. G. NICHOLS:

Dear Sir, — In reply to your letter of last week I would say that no changes have been made in the method of examining candidates for admission to the Society.

The examination by the Berkshire Board of Censors has always been an oral one. I will present your letter to the Society at its annual meeting on Wednesday.

Yours very truly, HENRY COLT, JR.,
Secretary Berkshire District Medical Society.

BRISTOL NORTH DISTRICT.

TAUNTON, *May* 20, 1884.

DEAR DOCTOR, — I hope you will pardon the delay in answering your note. Absence from home prevented its earlier recognition.

There has been no change made by the Board of Censors in their method of examining candidates. The examinations are both written and oral. I forward, at your request, a copy of the written questions used at the last meeting of the Board of Censors. Yours very truly, E. F. GALLIGAN,
Secretary.

TO DR. J. T. G NICHOLS, Cambridge, Mass

Materia Medica and Therapeutics.

(1.) Properties, preparations, doses, and uses of *aconite.* (2.) Of digitalis. (3.) Of salicin.

General and Medical Chemistry.

(1.) Neutral salts and how formed. (2.) How to detect sugar in the urine.

Theory and Practice.

Case of true croup. Case of spasmodic croup. Pathology of each. Differential diagnosis, prognosis, and treatment of each.

Midwifery.

Describe a case of normal labor. Case of puerperal fever, or septicæmia; pathology, symptoms, diagnosis, prognosis, and treatment.

Prescription.

Write a prescription in Latin for a cough mixture containing sulphate of morphine and syrup of squills.

Anatomy and Physiology.

Name the bones of the head. Name the muscles of the arm. What forms the circle of Willis? What is the function of bile? What action does saliva have on starch? Give the specific gravity and reaction of gastric juice, and what does it digest?

Surgery.

Fracture of femur at its upper third. Different kinds. Differential diagnosis. What splints and apparatus to be used in each form of fracture.

BRISTOL SOUTH DISTRICT.

NEW BEDFORD, *May* 20, 1884.

DR. J. T. G. NICHOLS:

Dear Sir, — We have made no changes in our method of examining candidates for admission to the Society. Our examinations have been entirely oral. Very truly yours,
A. MARTIN PIERCE,
Secretary Bristol South District Medical Society.

ESSEX NORTH DISTRICT.

NEWBURYPORT, *April* 29, 1884.

DEAR SIR, — There has been no change in the method of examination of candidates for admission to the Society by the Board of Censors of the Essex North District Medical Society. We do not have written examinations.

Yours respectfully, GEORGE W. SNOW,
Secretary.

ESSEX SOUTH DISTRICT.

11 FRANKLIN STREET, LYNN, *May* 4, 1884.

DR. J. T. G. NICHOLS, Chairman of Committee, etc.:

Dear Sir, — No special change has been made by the Censors of the Essex South District in the method of examining candidates for admission to the Society, and no forms of the questions used in the written examination are accessible.

I shall be glad to lay your letter before the Board of Censors of this District, and have no doubt that delegates will be sent to the next conference of Censors.

Please excuse my delay in answering, and believe me,
Very sincerely yours, C. C. SHELDON.

HAMPDEN DISTRICT.

SPRINGFIELD, MASS., *May* 7, 1884.

DEAR DOCTOR, — Your circular was duly received. Please find herewith a copy of the examination held last October, which is a fair sample of the work of our Censors' Board. The marking was on a scale of 100, and fifty per cent. required to pass. The answers of each candidate were read by the secretary to the Censors, question by question, and each Censor marked each upon its merits, at the end finding the general average, which was handed to the secretary, who alone knew whose answers were being marked. These averages, added and divided by the number of Censors, gave the final result, which passed the candidate if it reached fifty per cent.

I am thus explicit because a charge was made at the Censors' convention last year by one of our own Board that the Censors of Hampden had been guilty of "injustice" in their examina-

tions. The gentleman making this charge was newly elected a Censor, and had never acted as such, or looked at the records; but a personal friend of his and a fellow-member in a local medical club had unfortunately first failed to pass our Board, and hence his feeling, so strongly expressed.

At a subsequent meeting the questions upon which "injustice" was done were read to this Censor, one by one, and he failed to object to a single question as improper or too difficult; and since that time he has worked in perfect harmony with the Board, and assisted in the preparation of the paper I inclose, which will compare favorably with that printed from our district last year.

The candidate referred to above said he felt at the time that he did not do himself justice, and showed his excellent good sense by applying again, and was admitted. Our critical Censor is appointed delegate to your convention this year, and doubtless you will hear from him there. The general opinion in this district seems to uphold the effort for high standard, and I think you may count on us to aid in any measure proposed toward this end. Very truly yours,

GEORGE C. McCLEAN,
Secretary Hampden District.

DR. J. T. G. NICHOLS, Chairman Committee Censors.

Anatomy.

(1.) Over what areas would you percuss the lungs, heart, liver, spleen, stomach? (2.) What organs suffer most in dilatation of the heart? (3.) In what direction would you cut the internal ring in inguinal hernia? The crural ring in femoral hernia? Why?

Physiology and Chemistry.

(4.) Give tests for albumen and glucose. (5.) Describe the arrangement of gray and white substances of the spinal cord, their functions, and mention some of the results of paraplegia; of hemiplegia. (6.) Describe the digestive process, and how affected by acids and alkalies.

Materia Medica and Therapeutics.

(7.) Give the symptoms and treatment of poisoning by opium. (8.) Mention, and give the dose, of three principal mineral cathartics. Of three vegetable cathartics. (9.) Give the uses of ipecac, and write prescription containing it.

Theory and Practice.

(10.) What are a few of the more common sequelæ of scarlatina? (11.) Give briefly the clinical history, diagnosis, and treatment of peritonitis. (12.) What would be the appearance of the liver in a man who had died of cirrhosis of that organ?

Surgery.

(13.) Strangulated oblique inguinal hernia: Describe the symptoms and treatment. (14.) Traumatic gangrene: State in what sort of cases it is likely to happen, and describe the treatment. (15.) Tracheotomy: When and how would you perform it?

Obstetrics.

(16.) Give the mechanical conditions and the changes which take place in a normal labor. (17.) What are the causes of ante- and post-partum hæmorrhage, and the treatment of each? (18.) When and how would you diagnose a face anterior? What causes this anterior position? Treatment?

Please number the answers, and be as brief and concise as possible.

HAMPSHIRE DISTRICT.

NORTHAMPTON, MASS., *April* 29, 1884.

DR. J. T. G. NICHOLS:

Dear Sir, — Your letter of no date in reference to Censors is at hand. There has been no change in the method of examining candidates. We have no written examinations. Practically the responsibilities of the Censors here prove to be light, and I am not aware of any special interest in the subject.

Yours truly, CHARLES W. COOPER,
Secretary Hampshire District Society.

MIDDLESEX EAST DISTRICT.

READING, *May* 15, 1884.

DR. NICHOLS:

Dear Sir, — In reply to your circular of inquiry I will say: Our Board of Censors has made no change in its method of examining candidates for Fellowship. Our Board will send delegates to the next conference of Censors. I herewith inclose a list of questions used at our last examinations, yesterday.

Yours respectfully, GEO. E. PUTNEY,
Secretary Middlesex East District.

(1.) What is probably the most effective emetic, given hypodermically? (2.) Describe, briefly, nux vomica and give its physiological action. (3.) Give treatment of pneumonia. (4.) Pathology of acute rheumatism. (5.) What is hæmatocele? (6.) How many teeth in temporary set? How many teeth in permanent set? (7.) Name the branches of the aorta. (8.) A bullet wound through the palm. Its complications, dangers, and treatment. (9.) Dislocated hip, with fracture of femur at upper third. Treatment. (10.) When may it be necessary to make an artificial anus? Describe the operation. (11.) Sterno-cleido-mastoid muscle. Origin and insertion. (12.) Describe the signs of pregnancy. (13.) What do you think of carbolized vaginal injection after parturition? (14.) Describe two tests for arsen. acid. What is the best antidote for as. acid? (15.) What is the difference between carbonic acid and carbonic oxide? (16.) What is the composition of atmospheric air?

MIDDLESEX NORTH DISTRICT.

LOWELL, MASS., *May* 22, 1884.

DR. NICHOLS:

Dear Sir, — At the regular meeting of the Censors of the Middlesex North held on the 30th ult., Dr. T. Pierpont Shaw was chosen a delegate to attend the annual meeting of Censors for the State.

No changes have been made during the year as to methods of examination. I send herewith questions as you request.

We always have written and oral examinations.

Yours truly, GEO. C. OSGOOD,
Secretary Middlesex North.

Anatomy.

Name and describe (1.) The bones of the fore-arm. (2.) The bones of the ankle-joint. (3.) The anterior humeral muscles. (4.) The vessels which directly enter into or issue from the heart. Describe (5.) The knee-joint. (6.) The femoral artery. (7.) The relative position and structure of the liver. (8.) The peritonæum. (9.) The origin and distribution of the facial nerve. (10.) The contents of the left lumbar region.

Pathological Anatomy.

Describe (1.) The liver in cirrhosis. (2.) The kidney in chronic parenchymatous nephritis. (3.) Round ulcer of stomach. (4.) Possible lesions of typhoid fever. (5.) An embolus and its possible causes and effects.

Physiology.

(1.) Describe the process of deglutition. (2.) Composition and digestive action of (1) gastric juice, (2) bile. (3.) Describe the action of the diaphragm. (4.) Name the principal secretions. (5.) The constituents of blood and their relative proportion. (6.) What is the function of a motor nerve? of a sensory nerve? Give illustration of each kind. (7.) Describe the innervation of the heart. (8.) Source and method of production of animal heat. (9.) What are the lymphatics? Explain their function. (10.) What changes take place in the circulation of the fœtus at birth?

Chemistry.

(1.) What substances are *always* found in normal urine? (2.) Give two differenttests for albumen in urine, and state what precautions are necessary in each. (3.) Given a specimen of urine containing albumen, what further information is needful as a guide to diagnosis? (4.) How test for sugar in urine? (5.) Sources and symptoms of arsenic poisoning. (6.) What substances are incompatible with iodide of potassium? (7.) What circumstances favor the solution of lead in water? (8.) Write the chemical formula for corrosive sublimate and for calomel.

Surgery.

(1.) How reduce a dislocation of the shoulder? (2.) Treatment of erysipelas. (3.) Treatment of mammary abscess. (4.) Describe the proper method of passing a catheter into the male bladder, what difficulties may be met, and how to overcome them. (5.) Describe tracheotomy. (6.) Causes and treatment of tetanus. (7.) Treatment of fracture of rib. (8.) Describe hæmorrhoids and their treatment.

Materia Medica and Therapeutics.

(1.) Name two useful preparations and state therapeutic action and doses of opium, iron, digitalis, mercury, ipecac. (2.) Name three cathartics and dose of each. (3.) Name the principal diuretics, their sources, and their common preparations. (4.) Into what classes may expectorants be divided? Mention one of each class and state its appropriate use. (5.) Write a

prescription for acute pneumonia, and state in what stage of the disease it would be applicable for use. (6.) Name the leading hypnotics, and state the indications and the contra-indications for the use of each. (7.) Antidotes for opium, phosphorus, arsenic, and method of their administration. (8.) Write a prescription for a child of one year with gastro-enteritis. (9.) In what form and dose should opium and belladonna be used subcutaneously. (10.) The physiological action of alcohol.

Theory and Practice.

(1.) Symptoms and differential diagnosis of acute lobar pneumonia. (2.) Causes of chronic interstitial nephritis. (3.) Causes and treatment of typhoid fever and all its ordinary complications. (4.) In what diseases does jaundice appear, and what is its significance? (5.) What are the different forms of nephritis, and what is their relative prognosis? (6.) Treatment of scarlatina and of its sequelæ. (7.) In what ways may death occur from diphtheria? (8.) What are the physical signs of mitral insufficiency? of acute pleurisy? (9.) Symptoms and treatment of peritonitis. (10.) Symptoms and treatment of chorea.

Obstetrics.

(1.) Signs of pregnancy at the end of fourth month. (2.) Describe the mechanism of a normal labor, and state what assistance should be given, and when and how. (3.) Treatment of placenta prævia. (4.) When and why use ergot in labor? (5.) Management of a face presentation (6.) Management of a hand presentation. (7.) Treatment of post-partum hæmorrhage. (8.) Causes and treatment of the albuminuria of pregnancy.

Hygiene.

(1.) How many cubic feet of air space should be provided for each adult in his sleeping room? (2.) What diseases may be taken through the medium of the drinking water? (3.) What special precautions should be taken against the spread of typhoid fever, of small-pox, and of scarlet-fever? (4.) What is the meaning of endemic as applied to disease? (5.) What diseases become at times epidemic in New England?

MIDDLESEX SOUTH DISTRICT.

LIST OF QUESTIONS FOR THE APRIL EXAMINATION.

(1.) Describe the pectoralis major muscle. (2.) How is Scarpa's triangle bounded? What are its contents and their relation to each other? (3.) What is the average amount of urine excreted in twenty-four hours? (4.) What are the functions of the red corpuscles of the blood? (5.) Explain the difference between fatty degeneration and fatty infiltration. (6.) What lesion of the heart is found accompanying interstitial nephritis? (7.) Differential diagnoses of gout and rheumatism. (8.) Asthma: varieties, diagnosis, treatment. (9.) Widow, forty, generally well, has had malaise for several days, suddenly attacked with chilliness, but no distinct rigor; pain in head, limbs, and back; face flushed, skin hot and dry. Pulse 118; respiration 22; temperature 104° F. Tonsils red, swollen, and showing small white spots here and there. Diagnosis? Reasons? (10.) A single woman, twenty-one, generally well; an attack of pain in the abdomen coming on suddenly, most severe in left lumbar and iliac regions; remittent at first; in an hour became constant and very severe, with cold extremities and vomiting, continued about three hours and ceased suddenly; no fever. Diagnosis? (11.) Opium, from what derived, most important preparations and doses. (12.) Same of belladonna. (13.) Physiological action and therapeutic uses of digitalis, in small, large, and poisonous doses, and antidotes. (14.) Same of chloral. (15.) Inflammation, acute and chronic. Local signs, constitutional signs, treatment. (16.) Fracture of femur. (17.) Symptoms and treatment of a case of placenta prævia. (18.) Define an element. (19.) From what substance is metallic mercury obtained? (20.) A case of diphtheria occurs in a family where there are other children, what would you do to prevent the disease from spreading before and after the termination of the case?

NORFOLK DISTRICT.

ROXBURY, BOSTON, MASS., *May* 9, 1884.

DR. J. T. G. NICHOLS, Chairman of Committee, etc.:

Dear Sir, — Your circular received. After communicating with the chairman of this District Board of Censors I would reply: —

There have been no material changes made in the method of examining candidates. Each examiner is assigned certain subjects, upon which he always examines. The examination is oral, not written. Respectfully,

GEORGE D. TOWNSHEND,
Secretary Norfolk District Medical Society.

P. S. Will notify you of the appointment of delegates to the Censors' conference when the new Board of Censors for this district makes said appointments.

Please inform me the date of the meeting of the conference, and oblige G. D. T.

PLYMOUTH DISTRICT.

BROCKTON, *May* 2, 1884.

DEAR DOCTOR, — In regard to examinations of candidates for membership to the Massachusetts Medical Society in this *district* (*Plymouth*) during the past year the method was the same as that of the previous few years. The questions in all branches have been practical, but perhaps not always touching upon things commonly met with, nevertheless touching upon such things or subjects as it is necessary to know. I have not a list of questions used in the examinations, as we never have been accustomed to copy them into the record of the doings of the Society. The examinations have all been written ones, and if there were more candidates than one at the same time they had the same questions, but were placed in separate rooms.

I am sorry that I could not give you a copy of questions.

Yours respectfully, J. E. BACON,
Secretary for Plymouth District.

SUFFOLK DISTRICT.

19 EXETER STREET, BOSTON, *April* 27, 1884.

DR. J. T. G. NICHOLS:

Dear Sir, — There have been no changes in the method of examining candidates for admission to the Society during the past year.

I inclose copies of questions used in examinations.

Yours very truly, H. C. HAVEN,
Secretary Suffolk Censors.

P. S. I presume you only wish papers of last year; I can furnish others if desired.

Massachusetts Medical Society. Censors' Examination, September 27, 1883.

(1.) The relations of the vessels, muscles, and tendons in the palm of the hand. (2.) Differential diagnosis between fracture and dislocation of the hip-joint, and between hip-joint disease and malignant tumor of the upper part of the femur. (3.) What is the function of the liver? What is reflex action? What changes take place in the blood in the pulmonary circulation? (4.) What is apoplexy? What and where are the characteristic lesions of typhoid fever? What is erysipelas? (5.) Write a prescription, with directions and dose of each, for (*a*) a cathartic; (*b*) a tonic; (*c*) a sedative; (*d*) a stimulant; (*e*) a diaphoretic; (*f*) a derivative; (*g*) an emmenagogue. (6.) Give the dose of (*a*) arsenic; (*b*) mercury; (*c*) iodine; (*d*) iron; (*e*) lead; (*f*) bismuth; specifying the most desirable forms of each, with directions for administration. (7.) Differential diagnosis between parenchymatous and interstitial nephritis. (8.) Describe a case of cerebro-spinal meningitis. (9.) In the female pelvis which is the smallest diameter at the basin? At the outlet? (10.) When would you give ergot?

[Two hours allowed for the written examination.]

Massachusetts Medical Society. Censors' Examination, February 21, 1884.

(1.) Contents of the abdomen; their relations to the peritonæum and to each other. (2.) Hernia: varieties; causes; appearance; treatment. (3.) Normal constituents of the urine. Functions of the bile and pancreatic fluid. (4.) Causes of valvular disease of the heart. Pathological appearances in typhoid fever. (5.) Describe physiological action of ether; of chloroform; of nitrous oxide; the dangers attending each, and their treatment. (6.) State the symptoms induced by mercury; by lead; by phosphorus; with treatment. (7.) Describe a case of typhoid fever, with the treatment of any complications which you may think of arising in the course of the disease. (8.) The diagnosis and treatment of diphtheria. (9.) How early and by what signs can pregnancy in a primipara be detected with certainty? (10.) Which are the two longest diameters of the fœtal head?

[Examination limited to two hours.]

WORCESTER NORTH DISTRICT.

FITCHBURG, MASS., *June* 9, 1884.

DR. NICHOLS:

Dear Sir, — The examination of candidates for the past year has been by written questions and answers. I send all those that I have happened to preserve.

Give origin and attachment of psoas magnus muscle; also sartorius muscle. What changes take place in the air as it is inhaled and exhaled from the lungs, and what changes take place in the blood by respiration? Give formula for nitric acid. What is the only fluid metal? Give the chemical composition of castile soap. Give chemical name and formula for plaster of Paris. Give signs and duration of pregnancy. Describe a natural labor. What are the ordinary dangers of labor? When, if ever, would you give ergot? When would you use the forceps? Give difference between unavoidable and accidental hæmorrhage, and treatment of each. Give the symptoms of compression of the brain; also concussion of the brain. Treatment of each. The difference between phimosis and paraphimosis, and treatment of each. How would you treat a fracture of the olecranon? How reduce a dislocation of the humerus? Name points in the differential diagnosis of croupous and catarrhal pneumonia, and give pathology and treatment.

I overlooked your circular till this late date, but it will be better late than never. Yours truly,

CHARLES H. RICE, M. D.

The report of the committee was accepted, and the committee was discharged.

DR. H. F. BORDEN, of Plymouth District, said that the report showed conclusively that there exists a deplorable lack of uniformity in examinations by Censors, and that there is absolutely no rule at present by which the character or quality of the examinations in the various districts of the State may be established or regulated. In Suffolk the method adopted consists of a separate oral and written examination, and the candidate is qualified in accordance with the results of these examinations on a scale of 100. In Norfolk District, not five miles away, on the contrary, the examination is *entirely oral*. There is urgent need of some action by which there may be some degree of uniformity in the administration of this important and responsible office. Dr. Borden suggested that a certain definite number of written questions be recommended, and that candidates be subjected to the same number of written questions in all parts of the State.

DR. ERNST, of Norfolk District, proposed that a skeleton or scheme of examination be arranged and sent to each District Board of Censors at stated intervals, which should be the uniform standard for the written examination of all candidates in the State until the issue of a succeeding outline or scheme; and that, in addition to this, the Censors of each district should satisfy themselves by an oral examination of such character as they might think best, as to the further acquirements of the candidate, and that both the oral and the written examination should be considered in the final action of the Censors. In this way the Censors of each district would feel that the examination was not more rigorous in one part of the State than in another, and would also better understand the working of neighboring societies than is possible under the present system, which is an entire lack of any system.

DR. HARTWELL, of Worcester North, presented a motion recommending an amendment to Section I. of the existing By-laws, so that lines 20–21 shall read "*and by a further examination* ('a part of' omitted) *which shall be in writing, that he has an*," etc.

DR. HOWE, of Bristol North, considers the oral examination a very important adjunct to the written examination, and thinks it should always be associated with it. Candidates usually present diplomas from recognized medical colleges, and can no doubt easily satisfy an ordinary written examination; but the By-law requires the Censors to convince themselves of the moral character of the candidate, of his age, term of study, and system of intended practice. It would not be easy to gain all this information in a wrtitten examination, and practically it could not be done.

DR. BORDEN suggested that the names of candidates for admission to the Society be presented to the Board of Censors at one meeting, and that the candidates be presented for examination at the next following meeting of the Board. By this method the Censors could easily satisfy themselves of the character of a candidate, which is a specific part of their duty, and the candidate would be presented for a further examination in writing at the next meeting of the Censors.

DR. HOWE remarked that another matter also deserved attention at the hands of the Censors. It is this: A man may go from one part of the State to another, and may be admitted to the District Society within which he then shall reside without examination. What action ought the Censors to take concerning a man long in honorable practice, who, coming from another State, shall make his residence within one of the districts of this Commonwealth?

On motion of DR. ERNST it was voted that a committee of three be appointed to take this matter into consideration, and to recommend to the Board of Councilors of the State Society some action which should secure a uniform method, and, as far as practicable, a uniform standard of examination by the several Boards of Censors in the State, thereby avoiding a misinterpretation or maladministration of the By-law in relation to the admission of candidates for membership to the Society.

Drs. Albert N. Blodgett, of Suffolk, G. W. Clement, of Norfolk, and H. F. Borden, of Plymouth, were chosen as a committee for this purpose, and instructed to report at the next annual meeting.

There being no further business, the meeting then adjourned, to meet on the date of the annual meeting of the State Society in 1885.

MEETING OF THE MAINE MEDICAL ASSOCIATION, JUNE 10, 11, AND 12, 1884.

CHARACTER OF THE MEETING.

THE meeting of the Maine Medical Association, which was held in Portland on the 10th, 11th, and 12th of June, was characterized by a large attendance, scientific activity, and notable harmony. Rarely, if ever, have more or better papers been read, livelier discussions held, or kinder feeling displayed; and with these elements the occasion could not fail to be successful and leave a pleasant memory for every one who was fortunate enough to be present.

In the reports, essays, and discussions, practice, pathology, surgery, and obstetrics, all received due attention, and there was a gratifying absence of the overload of papers on narrow specialties, against which a wailing protest has gone up all over the country in the past two or three years. We would not be understood as lacking in appreciation of the work of specialists; but it is not altogether edifying to an assemblage of general practitioners to have half their time consumed by the reading of articles written in language which they do not comprehend, and about diseases which they never presume to treat. The sentiment and temper of the profession are easily ascertained if one will notice the expression of patient en-

durance on the faces of the audience during the presentation of one of these topics which is aimed way over their heads, and the sudden change to animated interest when somebody gives his views on a disease which every physician has to see many cases of every year. They care little and understand nothing about the first subject; but on the second they find their opportunity; all can and many do take part in the ensuing talk; the impact of one view against another evokes sparks even from dull-looking material, and a general impression of profit from the debate is the result. Thus it was in this meeting of the Maine Society; some peculiar cases were described and shown, some frequently observed conditions rehearsed, and some scientific problems discussed; but through all the general practitioner felt that he was having a fair chance, and that the object which should mainly be kept in view in such assemblages was observed. Space does not permit a full account of all the proceedings, but an idea of their scope may be obtained from a brief recital.

CASES OF COMPLICATED LABOR.

DR. S. P. WARREN, of Portland, reported two cases, one of acute pulmonary œdema in labor with death from heart-clot; the other of labor complicated by a number of uterine fibro-myomata — subserous, submucous, and intramural.

ALBUMINURIA AND ACUTE RETINITIS IN PREGNANCY.

DR. SARAH ELLEN PALMER, of Portland, reported a case of pregnancy in which the patient suddenly became blind at the seventh month. Albumen was found in great quantity in the urine, and examination of the eyes disclosed severe and rapidly progressing retinitis. Labor was induced, and the patient recovered with very fair vision.

DR. JAMES A. SPALDING, of Portland, saw the case often in consultation, and gave an account of his observations. He was able to find but little literature bearing on this precise condition. Cases of albuminuria and partial blindness in gestation are common enough; but in the reported cases the condition of the interior of the eyes is not mentioned. Both the accoucheur and the oculist strongly insisted upon the necessity of an ophthalmoscopic examination in all cases of pregnancy.

DR. ALFRED MITCHELL, of Brunswick, read an interesting and instructive paper on the Treatment of the Perineum in Labor.

PHOSPHORUS NECROSIS OF JAW-BONE.

DR. S. H. WEEKS, of Portland, reported a case of monocular diplopia, one of Tait's operation, and one of phosphorus necrosis of the lower jaw-bone. In the last case half the inferior maxillary was removed, and the patient was shown with but slight deformity and a fair prospect of being able to wear artificial teeth in the place of those which are lost.

MULTIPLE FRACTURE.

DR. J. A. DONOVAN, of Lewiston, exhibited a little lad whom he had treated for fracture of the parietal, comminuted fracture of one femur, compound fracture of the other, from which it was necessary to remove a large piece of the lower portion of the diaphysis. The boy walks with a decided limp, but gets around easily and well. Dr. Donovan also reported a case of tumor of the kidney, and a case of death from meningeal inflammation of the brain, originating in chronic non-suppurative inflammation of the tympanum.

DR. H. E. HILL, of Saco, gave the history of six ovariotomies, with five recoveries, though most of the cases were complicated.

DR. S. LAUGHTON, of Bangor, read a paper on the Relation of Micro-organisms to Disease.

DR. I T. DANA, of Portland, introduced the subject of obscure cases of typhoid fever in some extemporaneous remarks.

DR. C. W. BRAY, of Portland, reported a case of apoplexy in a girl of fifteen years, with the post-mortem appearances.

ETHERIZATION.

DR. F. H. GERRISH, of Portland, presented a method of recording cases, which so greatly simplifies the process as to tempt one to try it, and he likewise gave the result of some quite extensive observations on etherization, directed mainly to the prevention of vomiting. Full doses of bromide of sodium for twenty-four hours before the anæsthetization seemed to protect measurably against stomach disturbance, though this medication apparently prolonged the time of administration of the ether.

THE PRESIDENT'S INAUGURAL ADDRESS.

The President, DR. OREN A. HORR, of Lewiston, in his inaugural address, reviewed the first decade of the Society's life, and made numerous valuable suggestions concerning the duties which the Association owed to the community and the profession. The one which excited most attention was that relating to the Medical School of Maine, and a committee of three was appointed to confer with the trustees and overseers of Bowdoin College, of which the School is the Medical Department, and devise means for the removal of the institution from Brunswick to Portland at the earliest possible date. For many years it has been the conviction of the profession that the School ought to be in the medical centre of the State; and now that the Maine General Hospital is to be enlarged and the ground is already broken for the erection of a fine operating amphitheatre, all that seems to stand in the way of the change of location that is desired is the lack of a suitable building for the School. The Alumni Association has already awakened an interest in the subject, and may doubtless be depended on to favor the project in a very substantial manner; and it is not improbable that, within five years, the institution will be in a new home, in close relation to hospitals which can furnish opportunities that have hitherto been wanting. At Brunswick there is a perfect glut of clinical material, but there is no hospital, and the School can never do its best work without hospital advantages.

THE ANNUAL ORATION.

DR. A. L. HERSEY, of Oxford, delivered the annual oration. He touched upon a number of topics, one of the most impressive of which was the matter of medical education. Usually orators and writers are eager to denounce the schools for not advancing the standard; but Dr. Hersey, unlike most other speakers excepting professors, laid the blame upon the individual members of the profession. He said that as long as physicians permitted poorly qualified men to enter their offices as students, and complain of the schools

for not granting diplomas to these stupid fellows, so long will the standard be low. But if physicians would refuse to encourage all who have not a thoroughly good preliminary education, then the schools could and would take advance ground, and the profession would make immediate and steady progress. If every preceptor would take a high stand like this, what a change would appear in most of the medical schools all over the land!

SHALL THE AMERICAN MEDICAL ASSOCIATION BE INVITED TO PORTLAND?

On the last day of the meeting a subject was broached which excited extraordinary interest. A delegate to the National Society, in his report of the proceedings last month in Washington, said that a number of the members had voluntarily expressed a lively desire to have the American Medical Association meet in Portland. As the Maine delegates had no authority to extend an invitation, New Orleans was selected as the next place of meeting; but they brought the matter to the attention of the Maine Association, with a suggestion that, at the Louisiana Convention, this State Society should offer its hospitality to the national organization. Probably the thought was new to most of our members. With characteristic Down East modesty, the profession in Portland had not presumed to think that it could offer attractions to the greatest medical body in the New World. But, being introduced, the proposition received a cordial welcome; and, as it was too late in the meeting to discuss properly so important a theme, a committee was appointed to confer with the President and Chairman of the Board of Censors relative to the whole affair, with power to add to its number, and to act for the Association in any way which seemed expedient. Perhaps the scheme may be found impracticable, perhaps it may be easily feasible. At all events, it will be thoroughly examined, and the medical public shall be seasonably informed of the conclusion. The committee consists of Drs. Weeks and Gerrish, of Portland, Laughton, of Bangor, A. J Fuller, of Bath, and A. Garcelon, of Lewiston.

NECROLOGY.

Four members, all well advanced in years, have died during the year: Drs. John T. Gilman and J. S. Goodwin, of Portland, Wm. Swasey, of Limerick, and C. W. Whitmore, of Gardiner.

Between twenty and thirty candidates were admitted at this meeting.

OFFICERS ELECT.

The officers for the coming year are as follows: President, Thomas A. Foster, of Portland; First Vice-President, Sumner Laughton, of Bangor; Second Vice-President, Abial Libby, of Richmond; Corresponding Secretary, S. W. Johnson, of Belfast; Recording Secretary, Charles D. Smith, of Portland; Treasurer, Augustus S. Thayer, of Portland; Board of Censors, George H. Cummings, of Portland, B. F. Sturgis, of Auburn, E. Adams, of Litchfield, H. E. Hill, of Saco, A. L. Hersey, of Oxford; Publication Committee, the Recording Secretary *ex officio*, Charles O. Hunt, of Portland, C. A. Packard, of Bath, C. G. Adams, of Portland, J. O. Webster, of Augusta; Business Committee, Irving E. Kimball and C. D. Smith, of Portland; Orator, Stephen H. Weeks, of Portland.

The next meeting will be held in Portland on the econd Tuesday in June, 1885.

CHICAGO MEDICAL SOCIETY.

REGULAR MEETING, JUNE 16, 1884.

THE first paper was ably presented by DR. WM. E. QUINE, of which the following synopsis is appended: —

SIGNIFICANCE OF JAUNDICE IN DIAGNOSIS.

After alluding to jaundice of obstructive and non-obstructive origin, and to the various theories that have been advanced in explanation of the latter, the writer succinctly pointed out that the attendant symptoms were mostly due to the presence of colorless bile acids, — the bile pigment being harmless. Cerebral disturbance due to hepatic derangement and associated with cholæmia was not caused by the presence of normal bile, but by a different though unexplained species of toxæmia.

Although slight jaundice is often overlooked, and in some instances cannot be distinguished from cachexiæ except by the discovery of bile acids in the urine, the diagnosis usually relates to the discovery of the cause and not to the mere recognition of the effect The following seventeen points complete a summary of the paper: —

(1.) Jaundice occurring suddenly, in apparent health, and painlessly, is usually of emotional origin, and transitory.

(2.) When it depends on disease or injury of the brain, acute atrophy of the liver, snake poison, or an infectious fever, it is always associated with mental disturbance.

(3.) If it be attended with fever, and well marked, it is secondary to inflammation of biliary passages, pneumonia, toxæmia, or infective inflammation of the portal vein.

(4.) If it occur suddenly, and is preceded by paroxysmal pain and vomiting, it is caused, nine times out of ten, by biliary calculi.

(5.) If it is preceded by typical symptoms of gastro-duodenitis it is obviously of catarrhal origin.

(6.) Impassable obstruction of the common duct is shown by great intensity of jaundice, clay-colored stools, and in recent cases by distention of the gall-bladder.

(7.) Jaundice caused by sudden obstruction of the biliary passages is always associated with paroxysmal pain and nausea; but there is no means of ascertaining the nature of the obstructing body except its discovery in the stools.

(8.) In the rare cases of sudden obstructions by cancerous, hydatid, and aneurismal tumors, there is almost always a history of impaired health, enlargement and deformity of the liver, ascites, etc., which, aided by the revelations of physical exploration, will lead to correct differentiation.

(9.) Sudden return of normal coloring to fæces confirms the diagnosis of obstruction.

(10.) Occlusion of the cystic duct may be attended with as much pain, nausea, and distention of the gall-bladder as occlusion of the common duct; but there is no jaundice. In occlusion of the hepatic duct the same symptoms are present, including jaundice, and excluding distention of the gall-bladder. It is often impossible to distinguish between occlusion of the hepatic, and the common duct. The former is rare because the duct increases in size from above downward.

(11.) If jaundice persist after the symptoms of biliary colic or catarrhal inflammation have, a month since, disappeared; or if jaundice have disappeared after a

biliary colic, to return slowly and painlessly, it may be assumed that stricture of the duct has resulted from inflammatory thickening, adhesion of walls, or cicatrization of an ulcer.

(12.) A history of repeated attacks points to the probability of gall-stones.

(13.) If jaundice come on slowly, without antecedent colic or catarrh, and without attendant evidence of impaired health or portal obstruction, it is probably caused either by pressure upon the duct, or by the growth of a tumor within its walls. The pressing body, when large enough, may be readily appreciated, as in the case of pregnancy, ovarian tumor, aneurism, distended colon, etc.; but when it is small, or constituted by enlargement of lymphatics in the fissure of the liver, it is apt to escape detection.

(14.) Slight but persistent jaundice may be due to incomplete occlusion of the common duct, or to complete occlusion of a branch of the hepatic, but usually it is found associated with either valvular disease of the heart, some disease of the lungs which obstructs circulation, or cirrhosis of the liver.

(15.) If ascites be associated with it the disease is either cirrhosis or cancer of the liver. If the liver be abnormally small the disease is cirrhosis; if it be large the disease is either hypertrophic cirrhosis or cancer. Differentiation between the two is seldom attended with difficulty.

(16.) Absence of jaundice does not imply absence of hepatic disease, since the liver may be destroyed by disease or extirpated by operation without jaundice ensuing.

(17.) It is not a prominent symptom of hepatitis if catarrhal inflammation of biliary passages be rigidly excluded. It is not characteristic of hepatic abscess where, at most, mere muddiness of the complexion is usually seen. These affections are rare in temperate latitudes, and when encountered are generally found to be secondary to direct injury of the liver, or to infective inflammation of the portal vein. It is not a symptom of waxy or fatty liver or of hydatids excepting as an extraordinary complication.

DISCUSSION.

DR. G. C. PAOLI. There is no doubt but what in serious maladies of the liver there may be present only slight symptoms of jaundice sometimes. In scirrhus of this organ the tint of pigment in the conjunctiva and elsewhere may amount to but little; there may be no "bilious" excretions in the bowels, and icterus may be almost unperceived, and the diagnosis early made is apt to be overlooked.

DR. S. H. STEVENSON inquired more particularly of the writer if he stated that cholesterine is toxic, or that obstruction of the gall-duct, or either of these conditions, produces cerebral disturbances.

DR. J. J. M. ANGEAR. If clay-colored stools and the odor comes from the large intestine, and the small intestine has nothing to do to produce these conditions, or the bile either, then he could not understand why the liver excreted bile. To give mercury produces dark-colored offensive stools, because why? because it affects the large intestine or the liver. Physiology says bile destroys the red corpuscles of the blood. If the coloring matter of the bile is nothing more than the coloring matter of the blood, then why not take the position that some poison enters the blood, and that the color of the conjunctiva and mucous membrane has nothing to do with the liver.

DR. A. R. JACKSON expressed his admiration of the paper, that it should be emulated, as it was not "sophomore" in style, and that it was full of good points, and devoid of superfluous verbiage.

DR. J. H. ETHERIDGE inquired of the author if in mental emotion people did not at times become greatly jaundiced? Also, is it not a fact that pigmentary substances contain more than one kind of coloring matter? In those who are injured where icterus appears, is it due to reaction to the vascular or nervous condition? or merely to shock?

DR. C. T. FENN thought that in people who died from hepatitis the surface might become jaundiced in appearance.

DR. QUINE closed, but did not pretend to attempt answering all the questions, nor could he refer the speakers to any authority whereby they could be answered. He stated, however, that it has not been proven that bile is toxic, or that it produces cerebral disturbances, for the blood and secretions may be saturated for years with it and no cerebral disturbance ensue, and in obstruction of the common duct no symptoms of cerebral disturbance may be developed. Regarding the prevalence of jaundice in scirrhus of the liver this is erroneous. He did not know that jaundice occurred after death.

The second paper, by DR. G. F. HAWLEY,

THE EFFECT OF NOISES UPON CERTAIN FORMS OF DEAFNESS,

was attentively heard. A synopsis follows: —

More than two hundred years ago Dr. Thomas Willis, of Amsterdam, described a certain form of deafness in which hearing was improved by noise, which enabled persons to distinguish tones and sentences which at other times would be unheard. This symptom, bearing the name paracussis Willisiana, has been accepted by most aurists, but no satisfactory explanation as to its cause has been advanced.

While Politzer, Von Troltsch, and others consider that it depends upon some change in the position of the ossicles or membrana tympani, many like Kramer take different views, and believe that it is due to a stimulating of the auditory nerve, thus forcing it to a more healthy action. Experience favors the theory that the middle ear is the seat of this symptom; that some change is brought about by the constant noise which restores the hearing for the time being. What this change is, is still open to discussion. It may be of interest to relate the following case, which came under the care of the reader while house surgeon at the Golden Square Hospital, London. Mrs. H., aged thirty, had for the last five years suffered with marked deafness in both ears. Common conversation was heard with difficulty, except when any loud noise was present. At that time the hearing was apparently greatly improved. A watch could be heard on the left side only upon contact, and on the right at a distance of about two inches. The tuning-fork showed no trouble of the acoustic nerve, but clearly indicated some disturbance of the middle ear. The drum-head was normal as to tension, color, etc., while perfect movability existed in the malleo-incuidal joint. Nothing indicated anchylosis of any of the ossicles. The appearance of the throat was healthy, and the Eustachian tubes both patent. This is a good example of this form of deafness, in which

the symptom of hearing better in a noise manifests itself. Roosa, however, mentions two cases where the drum-head was more or less destroyed, and still noises improved the hearing. The ossicles in both cases were intact.

Politzer in his work on Aural Surgery states that this improvement is seen only in middle-ear affections of an adhesive or sclerotic character, and regards it as a most unfavorable symptom for satisfactory prognosis. Roosa, on the contrary, states that it is found in many forms of ear affections, and does not necessarily forbid one from expecting favorable results from treatment. In his article on The Effects of Noises upon Diseased and Healthy Ears, he says: "I have known two cases where this symptom occurred in patients who regained their hearing perfectly." While the symptom frequently accompanies incurable diseases of the middle ear, the writer believes it is a very frequent symptom in sub-acute cases where both ears are affected. Of course it would not be observed in disease of one ear only. Whatever may be the cause of this symptom, we are justified, the writer thinks, in believing that certain pathological changes are then present in the middle ear which will be found at no other time. If this be true, in what does the change exist? Willis considered the change brought about by the action of strong wave tones upon a relaxed membrana tympani to be the cause of this symptom. As long as the drum-head is in a relaxed condition it refuses to respond fully to wave impression. It is no longer a perfect sound conductor until its tension is restored. Noises, by forcing air against the membrane, press it inward, restore its tension, and hearing is improved until the pressure is removed when deafness returns as bad as ever. If this improvement was found only in such cases as he describes we might accept his theory as correct, but unfortunately, as already stated by the writer, it is present with no change whatsoever in the drum-head. Therefore in such cases at least this improvement in hearing is due to some other cause. We have in the middle ear two other elastic membranes, one of which takes as important a part in conveying wave impressions as the membrana tympani, any change by disease or injury would be fully as disastrous to normal hearing, that is, by this the writer means the membrane of the foramen ovale. When we consider the extraordinary fine shades of vibrations transmitted by this membrane to the fluids of the labyrinth, are we not justified in expecting that any loss of accuracy and precision on the part of the transmitting apparatus at this point will cause a corresponding loss of hearing power?

According to Riemann, the excursions of the stapes in the fainter tones are so small as to escape detection, even with the highest power of the microscope. Therefore a corresponding sensitiveness on the part of the membrane must necessarily be present in order to appreciate and transmit these vibrations. Thus we see that any change in the membrana ovalis, which tends to hinder the passage of the vibrations to the fluids in the inner ear, must cause diminution in hearing. If, then, the membrane from any cause becomes relaxed and loses the power of responding to vibrations, it acts no longer as a sound conductor, but as a damper to any wave impressions. This is demonstrated in the case of relaxed drum-heads where inflation improves the hearing. Not only must this elastic plate (so called by Politzer) be capable of responding fully to any wave impulse, but it must also bear a certain relation to the foot of the stapes, that is, a due amount of pressure must be applied by the stirrup and a sufficient resistance be offered in every ear that possesses perfect hearing. If this is lost deafness is the result. Chronic suppurative inflammation of the middle ear with destruction of drum-head, incus, and malleus is a proof of the correctness of this statement. Hearing is here frequently improved by a false drum-head, which presses the loose stapes against the membrane of the foramen ovale, thereby restoring the relative positions of the parts. In a relaxed membrane the pressure of the stapes is wanting, due to an absence of resistance in the diseased membrane itself. Until we find some means of restoring this needed resistance, deafness remains. Thus through the loss of elasticity in this membrane we lose two important factors for perfect hearing: First, this membrane like the membrana tympani while relaxed refuses to act as a conductor of sound by not responding to vibrations given it; and, second, the proper relation between it and the stapes is destroyed the necessary pressure and resistance being absent.

We find in the case of an atrophied drum-head that hearing is frequently improved by inflating the middle ear, which restores the tension to this membrane by forcing it outwards. One might suppose that such inflation would likewise restore lost hearing if due to a relaxed membrane at the oval window. Unfortunately the same act which might restore to this membrane its proper tension forces it inwards as well, and thus separates the stapes from it. Though the membrane may be in a proper condition for receiving and transmitting wave sounds, the stapes, from the absence of any pressure applied by it to this membrane, will be unable to perform its duty; there will be more or less obstruction to the passage of sound at this point. Whatever, then, restores the hearing in these cases must not only renew the tension of the membrane, but maintain as well the relative position of health between it and the stapes. This, in the writer's opinion, can only be accomplished by some influence brought to bear upon the membrane and stapes from outside the middle ear. If, now, we consider the effect of wave impulses upon the membranes and ossicles we can probably understand how a loud and continuous noise (as the writer thought) might improve the hearing where the deafness is due to such pathological changes as herein described. The air set in motion by this noise strikes upon and pushes the drum-head and ossicles inwards. This crowds the air in the middle ear against the membrana ovale, which, if relaxed, is made tense by this pressure. At the same time the relative position between it and the stapes, as to pressure, etc., is also restored, and hearing, for the time, is therefore improved. This noise, which would confuse one with normal hearing, is absorbed, so to speak, in removing the cause of deafness. In case of perforated drum-head the vibrating air acts directly upon the diseased membrane and stapes.

Von Troltsch mentions a case where a magistrate so afflicted improved his hearing by pressing a bit of stick against the drum-head. Allen also, in his work on Aural Surgery, states, while speaking of this symptom, that the hearing power was increased in a patient who presented herself with marked destruction of the drum-head by pressing cotton against the ossicles. Another is also noted where a large perforation existed. Here, before and after the healing of the perforation, hearing was improved by pressure.

Though these three cases do not in themselves place this theory beyond dispute, they may make it worthy of consideration. It may encourage us to further investigations, which, perchance, may result in establishing beyond a doubt the cause of improved hearing in certain forms of deafness by noise.

The paper was discussed by DR. S. J. JONES, who stated: This subject interests pathologists considerably; different causes will produce the condition described, and it is therefore not always dependent upon the same cause. A noise that will thus affect an abnormal ear may have none whatever on the normal ear, and cotton pressed over the stapes may also increase the hearing power of an abnormal ear. A tuning-fork placed between the teeth is also better heard in these particular cases of affected ear. The same also regarding the transmission of delicate sounds, — when the hand of a patient is placed upon a piano it will excite to action hearing in an abnormal ear of this kind.

MEDIAN LITHOTOMY FOR CYSTITIS AND HYPERÆSTHETIC URETHRA.

The following is a condensation of DR. W. L. AXFORD'S verbal report of a case, pertaining to genito-urinary surgery, occurring in a man aged sixty-six, of inherited gouty diathesis. Occupation, gardener. For the past eighteen months patient has been a great sufferer from attacks of nephralgia, which were relieved by one fourth of a grain of morphia subcutaneously for a long time. In time, however, the action of the drug, even in much larger doses, failed to relieve him; suppositories of belladonna and all anodynes also failed. Recently he had another attack continuing three days. He voided his urine frequently, perhaps every five minutes. The bladder remained full continuously, and he had also severe chronic cystitis. Catheterization produced intense agony. This was of such an excruciating character, owing to unusual hyperæsthæsia of the urethra, that, as a last resort, the median operation of lithotomy was performed to relieve him, which purpose it accomplished admirably. A drainage tube inserted was repeatedly obstructed with mucous and phosphatic deposits. The urine was very ammoniacal and fœtid, he also had enlarged prostate. He died in a few days, and autopsy revealed cirrhotic gouty kidneys and liver. He would perform this operation again in a similar case.

DR. C. T. PARKES discussed the above case, and stated his belief that the operation was justified; he had performed it to relieve cases of cystitis himself, and briefly cited two instances when he had relieved each of them for six months.

The last speaker then presented a verbal report of a case of

PAPILLOMATOUS MULTILOCULAR CYSTS OF BOTH OVARIES,

and exhibited the specimen, his remarks, of which we append the principal points, are as follows: —

The specimen consisted of papillomatous multilocular cysts of both ovaries. The cysts had ruptured and discharged their contents into the peritoneal sac. The history of enlargement embraced a period of only six months. The patient stated she never had an illness previous to the commencement of the abdominal enlargement. She emaciated rapidly and to great extent; patient measured forty-four inches in circumference at height of umbilicus. The greatest difficulty in the case was the differentiation between ascites and ovarian cyst. There was no œdema, nor had there ever been, of the lower extremities. Percussion gave dullness in all directions, lying, standing, or sitting, the only point of resonance being in the epigastrium; here fluctuation was very distinct in all directions on the slightest touch. Pelvic examination revealed that fluctuation was not to be felt in the pelvis. Also determined the presence of a small growth about the size of the closed fist on right side. The uterus was displaced forwards close to the pubes; cul-de-sac of Douglas filled with foreign body. Diagnosis: Ovarian tumor, ruptured sac, and contents emptying into peritoneal sac.

Operation. Forty-four pints of fluid were evacuated from the abdomen and tumors; fluid of dark amber color. No large amount of lymph precipitated in it after standing. Both ovaries were found diseased, there being present on the right side a ruptured papillomatous tumor, which still contained some fluid that could be pressed out at the site of the papillary growth. The right one had not ruptured, but was bound down deeply in the pelvis by adhesions. The true pelvis was filled by the tumors and their adhesions. With great difficulty the tumors were enucleated and removed. During the first four days after the operation her temperature had not reached 100° F., the patient being strong and cheerful. Bleeding was quite free immediately after the separation of the adhesions, but soon ceased altogether under pressure with dry sponges. A drainage tube was left in the lower end of the incision down to the bottom of the pelvis, anticipating free discharge from such an extensive raw surface, which was very free through it for two days. Six days after the operation the temperature is normal, and whilst there is danger yet there is not much doubt of her ultimate recovery.

Discussed by Drs. A. R. Jackson, C. T. Fenn, and R. Tilley.

At a late hour the Society adjourned. L. H. M.

Recent Literature.

Clinical Chemistry. An Account of the Analysis of Blood, Urine, Morbid Products, etc. By CHARLES HENRY RALFE, M. A., M. D., Fellow of the Royal College of Physicians, London, etc. Illustrated with Sixteen Engravings. Philadelphia: Henry C. Lea's Son & Co.

This work, the author tells us, has been written to furnish students and practitioners with a concise account of the best methods of examining chemically abnormal blood, urine, morbid products, etc., at the bedside or in the hospital laboratory. In the first two chapters the nature of the processes going on in the body under normal conditions and the properties of the chief organic and inorganic constituents of the body are briefly considered. Then follow chapters on Blood, Morbid Conditions of Urine, Morbid Conditions of the Digestive Secretions, and Morbid Products.

We are surprised to find so many misspelled words and incorrect formulæ in a book of this kind. The most noticeable examples of the former are "Pettenkoffer," Draggendorf," "Woolaston," "ptoamines." Some words are repeatedly misspelled. Most of the incorrect formulæ are undoubtedly errors of the printer; some are, apparently, not; as, for instance, the formulæ

for the normal and acid sodium carbonates, which are repeatedly given incorrectly. The author apparently wrote his book hastily, and revised the text, if at all, very carelessly.

We find some statements in the book with which we do not agree. For example, we do not consider the volumetric estimation of chlorine, by means of mercuric nitrate, simpler and more reliable than the estimation by means of silver nitrate. His directions for the preliminary examination of the tissues for morphia and strychnia in cases of suspected poisoning cannot be recommended. Some of the illustrations are very inferior.

This book can, we think, be made a very useful one. It needs, however, very careful revision. The chapters on Blood and Urine, which are really the most important practically, and which occupy, as is proper, a relatively large portion of the book, should be made more complete. The value of the book would thereby be increased.

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THE WESTWARD COURSE OF CHOLERA.

THERE is no longer any possibility of concealing the character of the disease which has manifested itself at several different points in France, and it is evident that true Asiatic cholera has found a foot-hold on the western shores of the Mediterranean at places with which the rest of Europe and this continent are in active commercial communication. Though such a sequence to the epidemic which ravaged Egypt last year was long ago anticipated, its actual occurrence is none the less startling; and whilst there is no occasion for panic or ill considered and exaggerated action, especially in this country, a careless sense of security would be quite as ill timed.

The disease seems to have been brought to Toulon by a government vessel, the Sarthe, whose commander is reported to have committed suicide from mental distress at his relation to such a disaster, and the first case occurred there, apparently, about a month since. The government resorted to a policy of concealment at first of the fact that there was sickness at the naval yards, and subsequently of its nature, and even now that cases are reported at Marseilles and at Paris there is more than a suspicion that its full extent is not made public. Such a policy, whether in regard to cholera or yellow fever, is a mistaken and usually disastrous one, and should find as little favor with civilized commercial people as the old-fashioned quarantine or attempts to control the course of such plagues by burning fires in the streets and sprinkling them with disinfectants.

As we write the latest advices announce eight or ten deaths daily in Toulon in the navy yards and in the town, with sixty-two patients in the naval hospitals.

No clean bills of health are issued to vessels leaving Marseilles; Gibraltar refuses entrance to French ships; overland passengers from France are subjected to five days quarantine at Rome; and Spanish authorities threaten a quarantine of from ten to fifteen days against all English shipping unless England adopts what they would consider satisfactory precautions against the introduction of the disease, which it is not probable England will do.

All this illustrates at once a general conviction of the seriousness of the situation, and the little progress made since the International Congress of Vienna, in 1874, by the different European countries toward a rational and uniform policy of controlling the spread of epidemics. The general principles announced by that Congress formed a decided advance upon the irrational mediæval practices to which some of the participating countries still clung and still cling, but it was clearly recognized by the majority of the delegates that any genuine progress toward uniform practice must be based upon a prolonged conjoint investigation of the laws governing these epidemics and of the various conditions to be met. Such an investigation it has been impossible hitherto to secure. We all remember the little favor shown the attempt by our own government, in 1881, to promote, through a congress at Washington, an international system of notification of disease.

It is probable that these questions will come up at the approaching Medical Congress at Copenhagen, or at the Health Congress at the Hague in August, and it is to be hoped that some practical results may be reached. A German commission, of which Professor Pettenkofer and Dr. Robert Koch are members, have now under consideration the proper measures to be adopted in that country against cholera, and their report is expected with impatience.

Unquestionably the first, the most important, and the most feasible precaution in any country or in any particular city is to require cleanliness in public and in private places, to guard against an infection of water supplies, to encourage individuals to live wholesomely. A thorough system of inspection should be organized, and at sea-port towns suspicious vessels must be fumigated, those actually sick secluded, and other passengers — should circumstances or public feeling demand it — may be subjected to a limited quarantine of from five to seven days. The period of incubation of cholera, however, — as of other infectious diseases, — is a variable one, and England is right in declaring it to be easier and more profitable under the exigencies of modern commerce to remove the soil than to exclude the seed.

Between the end of May and the end of September there is ample time for cholera to cross the Atlantic. Common prudence demands that the authorities in all

our large cities, and particularly those on our Atlantic sea-board, should be strenuous in their exertions to abolish all nuisances and sources of filth. Such labor is sure to be rewarded in the diminution of sickness from other causes than cholera, and will in no event be lost.

STRETCHING THE INTERCOSTAL NERVES.

THE intercostal nerves have again been stretched for neuralgia, and successfully, at least so far as the operation and its immediate effects were concerned, as we learn from Dr. L. v. Lesser.[1] The patient was a woman of sixty-one, and the neuralgia, of seven years' standing, occupied both sides of the chest from the fourth to the tenth rib, and both breasts. In spite of the fact that both mammillary glands were greatly atrophied, a few drops of milky fluid could be pressed out of them, and it is especially noteworthy that this secretion increased during the exacerbations of pain, which recurred with great violence every night. The operation was decided on as a purely symptomatic measure, notwithstanding the fact that the neuralgia was believed to be due to pressure — possibly of distended rachidian veins — upon the nerve-roots. Seven intercostal nerves were laid bare and forcibly stretched, one after another, all of them upon the right side.

The wound (a single long cut through the skin) healed by first intention, and without material accident, considering the age of the patient. The patient left the hospital without having had any return of the neuralgia beyond a few slight pains, and remained equally free for two months, when she died.

The writer makes some important suggestions with regard to the details of the operation. The nerve, he says, should be sought for not just beneath the rib, as is usually stated, but *behind* and beneath it, in a triangular space bounded by the rib, the intercostal fascia, lying between the two sets of intercostal muscles, and the internal layer of muscle, which is attached some distance up on the posterior surface of the rib.

Failure to remember this fact that the nerve (and vessels) is to be sought for rather behind the rib than on a level with it would lead the operator, he thinks, into the danger of penetrating the pleura, which was in this case avoided.

A COMMISSION TO CONSIDER THE RELIEF OF RIVER BASINS AND PROTECTION OF WATER SUPPLIES.

THE last Legislature of Massachusetts passed a resolve for the appointment of a commission to consider a general system of drainage for the relief of the valleys of the Mystic, Blackstone, and Charles Rivers, and certain other portions of the Commonwealth, and for the protection of the public water supplies of the cities and towns situated within the basins of these rivers, such commission to consist of five persons, of whom no two should be residents of one municipality. A previous commission, consisting of two physicians connected with the State Board of Health and one sanitary engineer, reported to the Legislature three years ago, considering especially the condition of the Blackstone River, into which the sewage of the city of Worcester was being emptied, greatly to the annoyance of towns below. No action was taken at that time, and the commission was dissolved.

No more important question in the immediate future awaits the action of the legislatures of this and other thickly-settled Eastern States, in which extensive manufactories add their refuse to the sewage of a large and growing population, thereby complicating a problem already sufficiently serious. A certain profit may be derived from studying the experience of other and older communities who have been grappling with these questions already for a number of years with varying success. The conditions, however, change so greatly in each country with soil, climate, rainfall, and dilution of sewage that results elsewhere can only be accepted as applicable anew after the most careful study and revision.

This commission is expected to consider the various methods of disposal of sewage and the application of such methods to any portion of the territory mentioned, and to report its conclusions in print to the Legislature of the year 1886, or to that of the year 1885, if practicable, for a portion or the whole of the territory, and to consider and report upon the needs of any other portion of the Commonwealth as to the disposal of sewage and the protection of the public water supplies. It must also include in its report suitable maps and plans of the territory to be drained, an estimate of the cost of the work, and a recommendation as to the methods of apportioning the cost. The commissioners are to receive such compensation for their services as the Governor and Council may determine, provided that the whole amount expended under the provisions of the resolve shall not exceed twenty thousand dollars; and their term of office shall not extend beyond January 31, 1886. Power is given to employ such engineering and other assistance as may be necessary for carrying out the objects of the resolve.

The commission as named by the Governor consists of two lawyers, one manufacturer, and two men of business. There should unquestionably have been at least one medical man, especially acquainted with the questions involved, among the number. The expert knowledge of the engineer may be easily and probably better supplied from the appropriation than by appointment upon the commission.

The report will be awaited with great interest by those who for some years past have been impressed with the urgency of the subject, and should be a valuable document, which we hope may be so conceived as to attract the support of our legislators to wise measures.

[1] Deutsch. Med. Wochr., No. 20.

— The advent of Asiatic cholera at a number of places on the Mediterranean Sea is announced.

MEDICAL NOTES.

— Dr. Fordyce Barker is reported to have said that for two years he has directed his nurses never to give a vaginal injection, unless especially ordered, in the puerperal state. Experience has taught him that patients did better than when antiseptic vaginal injections were used in a routine manner.

— Some workmen engaged in excavations in the bail within the boundaries of the old Roman city at Lincoln lately came across a crematory furnace and a sarcophagus. In the latter were found ten urns, which contained dust and calcined bones. The urns were of different sizes and shapes, and were all provided with saucer-shaped covers. Only one of them, however, was got out perfect. The interior of the sarcophagus was lined with long, thin bricks, which perished on being exposed to the air.

— Dr. Wythe, in the *Pacific Medical and Surgical Journal* for March, 1884, says: "The sanitary condition of the great cities of the world to-day is vastly better than of those of the Middle Ages, although very far from what common prudence deems desirable. It is still true that people live longer in rural districts than in cities, yet ever since civilization began to inquire into and regulate public hygiene there has been steady improvement. Statistics may not yet be fully reliable, yet the best we have prove that life has been prolonged by civilization. According to Wagner, 'In the twentieth year of life the probable survival was in the sixteenth century twenty-two years; in this century forty years.' Among children the death-rate depends upon the social position or high civilization of the parents. In England, according to the tables of Mr. Ansell, of 100,000 children born alive 74,000 will live at the end of their fifth year; but among the upper classes, who can afford the appliances of modern life, there will be 87,000, and among the peerage there will be 90,000."

— The Paris correspondent of the *Lancet* sends an account of an invalid artillery soldier at Landrecies, in the Department of the North, who was wounded in the late Franco-German War, when he was horribly mutilated by the bursting of a Prussian shell. The man's face was literally blown off, including both eyes, there being left behind some scanty remnants of the osseous and muscular systems. The skull, which is well covered with hair, was left intact, so that the man had a most hideous and ghastly appearance. This disfigurement has been completely concealed by a mask, which was made for him under the direction of the principal medical officer of Val de Grâce, in Paris, whither he had been transferred from the field ambulance. The mask was constructed by a surgeon-dentist named Delalain. It includes a false palate and a complete set of false teeth, and it is so perfect that the functions of respiration and mastication, which were necessarily imperfectly performed, are almost completely restored to their normal condition, and the voice, which was rather husky, has resumed its natural tone. The man speaks distinctly, the sense of smell, which had entirely disappeared, has returned, and he can even play the flute. He wears two false eyes, simply to fill up the cavities of the orbits, for the parts representing the eyelids in the mask are closed. In fact, the mask is so well adapted to what remains of the real face as to be considered one of the finest specimens of the prothetic art that could be devised. The man himself, whose name is Moreau, and who is in perfect health, is looked upon as a living curiosity, and travelers go a good deal out of their way to see him. His face, or rather his mask, is, of course, without any expression, but his special senses, particularly that of touch, are extremely developed, and he goes by the sobriquet of "l'homme à la tête de cire." He wears the military Cross of Honor, and delights to talk about what he went through during the war. To add to his meagre pension he sells a small pamphlet containing a full description of his wounds and of the apparatus that has been so skillfully devised as to render him at least presentable to his fellow-creatures.

— Dr. R. Guaita, in the *Gaz. degli Ospitali*, quoted in the *Bull. Gén. de Thérapeutique*, has been advocating the use of benzoate of sodium in the summer diarrhœa of children. A belief in the zymotic nature of this disease has led him to give the benzoate in doses which would ordinarily be looked upon as dangerously large for infants. He uses four to six grammes of the drug in the twenty-four hours after an initial purgative dose of calomel. Milk and soup are absolutely forbidden, and the diet (except in nursing infants, who are allowed the breast every six hours) is limited to a little wine and lemonade. In spite of these heroic measures (or shall we say because of this radical onslaught upon the microbes?) the results reported were very good. In a series of fifty-three cases, between the ages of six and twenty-four months, all recovered; thirty-five in whom the disease had lasted from twenty-four to thirty hours, in four to eight days, while the remaining eighteen, in whom it had existed from six to fourteen days, all recovered in about twenty-one days.

NEW YORK.

— The usual corps of fifty physicians for service in the tenement-house districts during the summer were appointed by the Board of Health June 24th. They go on duty on the 6th of July.

— The judgment which was rendered over a year ago by Justice Van Vorst at Supreme Court, special term, against the "United States (Eclectic) Medical College," depriving the institution of its charter, was affirmed in May, 1883. From that judgment the defendants appealed to the Court of Appeals, and the latter has just handed down a decision affirming the judgment. As the attorneys for the "Buffalo College of Physicians and Surgeons" stipulated to let the case against that school abide the event of this suit, the decision disposes of both of these bogus colleges.

— At Grace Church, at Broadway and Tenth Street, some exciting scenes occurred on the afternoon of June 24th. By the fall of a derrick used in the con-

struction of a stone spire now in course of erection to replace the old wooden one at the top of the bell-tower two workmen were seriously injured, one of them fatally. The latter was bound down to the logs forming the derrick platform by several wire cables, which cut into the flesh like knives, and it took four men twenty minutes to release him with cold chisels and hammers. In the meanwhile medical aid had been summoned, and an ambulance surgeon from St. Vincent's Hospital being the first to arrive he was just in the act of ascending to the scene of the accident by outside ladders when five or six large blocks of stone, each weighing from 150 to 300 pounds, came crashing down upon the roof, through which the most of them broke, falling into the body of the church below. The stones were dislodged by the force of the parting of the wire cables which it was necessary to cut through. By this time an ambulance surgeon from the New York Hospital had also arrived, and he succeeded in reaching the injured man, who was terribly mangled. When his wounds had been dressed, the question arose how he was to be gotten safely down, as the only means of descent was a steep and narrow ladder. Finally it was determined to invoke the aid of the fire department, and a life-saving apparatus having been procured he was by means of this carefully lowered to the ground, an immense crowd of spectators watching the descent with breathless interest. He was then placed in an ambulance and carried to the New York Hospital, where he died on the following day.

— Dr. Henry G. Piffard has again gone back to the University Medical School, having received the appointment of clinical professor of dermatology. Drs. F. R. S. Drake, Joseph E. Winters, N. M. Shaffer, and P. A. Morrow, instructors in the same college, have been promoted to be clinical professors respectively of medicine, diseases of children, orthopædic surgery, and venereal diseases.

— Dr. Macartney, Deputy Health Officer since 1867, has resigned his position and gone to Europe for a year or two's rest. He served successively under Drs. Swinburne, Carnochan, Vanderpoel, and Smith, and had full charge of the quarantine hospitals from 1869 to 1876. During 1867 and 1868, when there was an epidemic of cholera, the disease having been imported by several English steamships, he attended more than 150 patients with it from the emigrant vessels, and in 1872 he took charge of the soldiers suffering from yellow fever at Governor's Island.

— Dr. John G. Adams died on the 19th of June at Liverpool, where he had recently arrived, having sailed from New York May 14th. He was a dignified and scholarly gentleman of the old school, and for many years had been corresponding secretary of the New York Academy of Medicine. He was born in New York August 12, 1807, and having completed his academic education at Yale, pursued his medical studies at the College of Physicians and Surgeons, where he was graduated in 1830. He was the first president of the New York Medical and Surgical Society, and in 1852 began to edit the *New York Medical Times*, of which four volumes were published.

Correspondence.

RESTORATION OF GUMS ABOUT LOOSE TEETH.

THE formation of pockets between the roots of teeth and the surrounding tissues is one of the most troublesome conditions which the dentist is called upon to treat. As present methods of treatment are seldom satisfactory, some of the readers of the JOURNAL may think the following one worth trying. Only one jaw should be worked upon at a time. An impression of this should be taken a week or more before the operation, and a plate struck to cover the teeth. It is not always necessary for this to cover all the teeth. In many cases it can be fitted about the sides, leaving the crowns bare.

The teeth are then to be cleaned with sharp instruments, and the edges of the alveoli scraped in the ordinary way. All the débris is to be carefully syringed out from between the roots and the surrounding tissue, after which the following solution is to be injected into the pockets: —

℞ Thymol . . . . . 10 grammes.
Absolute alcohol . . . . . 100 grammes.
Mix.

Fine sponge which has been soaked in a germ-destroying solution and then dried is next to be cut into pieces, moistened, and carefully placed in the largest pockets, as, for example, those often seen between the molars, where, it is evident, that by the ordinary treatment we could not get a restoration of the lost tissues. The solution already given, if diluted with ten times its bulk of alcohol, answers as well as another for treating the sponge.

The metal cap, made of the proper shape to allow of new tissue growth about the denuded roots, is now placed in the mouth, and the patient sent away, after directing him to remove the plate at least six times a day, in order thoroughly to rinse his mouth with whatever simple wash may be prescribed.

Each day for the first week the pockets should be thoroughly cleaned by injecting into them by means of a fine-pointed syringe the following solution: —

℞ Nitro-sulphuric acid . . . . . 1 gramme.
Water . . . . . 100 grammes.
Mix.

During the second and third week the same treatment is to be followed by the patient, who should be seen every third day to have the injections repeated at the necessary points. After this the plate can be taken out of the mouth. This treatment is sometimes quite successful.

WILLIAM HERBERT ROLLINS.

June 19th.

Miscellany.

A CASE OF EPILEPTIC AUTOMATISM.

AN interesting case of epileptic automatism is described by a writer in the *Lancet* (May 31st).

A young man has for four years been subject to attacks of petit mal. He does not fall, but seems to "fix" his eyes, and sometimes walks forwards, or sideways, at others sits down, and generally ends by going to sleep. There are neither convulsions, nor frothing at the mouth, nor tongue biting. The only warning is that he suddenly begins to wonder whether he is going into an attack, and then he loses consciousness. He

does not think he ever dropped anything out of his hand, but he has spilt tea out of a cup. In some of the attacks he will stop what he is doing and seem to "study" for a time, but in others he will go on doing what he was engaged in at the time.

A. On one occasion, while alone in the house, he had been playing the oboe, and was just turning over some music when he lost himself, and knew nothing more for an hour and a quarter (he happened to know the time); when consciousnesss returned he was lying on the sofa still alone in the house. He, however, must have, during the state of unconsciousness, put the oboe properly away in its case and taken out the reed, for it was uninjured in its place when he came to himself. Now, this taking the reed out of an oboe is an operation requiring very delicate manipulation.

B. Another day he was with several musical friends. I think he had been accompanying some of them on the piano. He was standing at the table turning over some pieces of music when they saw him go into an attack. While it was obvious to them that he was in a fit, for they had seen him before, he took up a piece of music, went to the piano, and played it; he was quite unconscious afterwards of having done this.

C. In his father's mill there is a machine for winding warps, which is not under the special care of any one, for, when started, it works for some time by itself; but occasionally a warp breaks, and when this takes place any one who happens to see the broken end of the warp hanging down stops the machine, "piecens" — that is, joins, — the ends, and starts the machine again. Now, one day his father and others saw him go into an attack ("fix" his eyes and walk forward); and while he was in it he passed this machine, in which a broken warp was at that moment hanging down. He stopped the machine, — which is a peculiarly complex action, for it must not be stopped suddenly, but has to be let down or "slowed" by degrees — he tied the broken ends, and then started the machine again. All this he did while obviously quite unconscious, and then he passed into the usual drowsy ending of the attack.

The writer points out that these phenomena were not those of purposive epilepsy; that they did not constitute the fit, but occurred in spite of it. According to Hughlings Jackson, if the epileptic discharge be limited to parts essential to higher consciousness only, and lower areas are left untouched, these, being freed from control, will act automatically, sometimes with even hyperphysiological activity, in response to any stimuli which fall in their way. Possibly these stimuli may have been in the case *A* the remains of intentions already cerebrally formulated, or they may have been sense impressions received while in the unconscious condition in the case *C*. But the seemingly violitional character of these "automatic" acts is difficult of comprehension under any view.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 21, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	634	280	22.82	15.68	10.08	2.94	1.68
Philadelphia	927,995	374	145	19.44	14.85	6.48	2.43	5.49
Brooklyn	644,526	256	108	24.96	13.65	12.09	3.90	3.51
Chicago	632,100	237	130	27.30	10.08	7.14	3.78	2 10
Boston	423,800	157	47	16.00	22.40	4.48	2.56	3.20
Baltimore	408,520	180	111	34.44	8.81	26.95	1.66	3.33
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	84	31	23.80	11.90	11.90	2.38	1.19
New Orleans	234,000	145	70	28.29	8.97	13.31	.69	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	121	70	35.69	15.77	24.90	—	3.32
Pittsburg	180,000	66	35	16.72	6.08	—	6.08	3.04
Milwaukee	142,400	46	28	13.02	8.68	4.34	—	2.17
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	23	0	17.40	21.75	4.35	—	8.70
Nashville	54,400	25	9	28.00	12.00	20.00	—	—
Charleston	52,286	44	14	18.16	6.81	4.54	—	—
Lowell	71,447	24	18	24.96	4.16	8.32	—	4.16
Worcester	69,442	18	5	11.11	16.66	—	11.11	—
Fall River	62,674	20	8	15.00	—	15.00	—	—
Cambridge	60,995	17	4	—	35.28	—	—	—
Lawrence	45,516	10	3	30.00	20.00	—	—	20.00
Lynn	44,895	9	1	—	11.11	—	—	—
Springfield	38,090	7	2	14.28	14.28	—	—	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	5	3	40.00	20.00	—	—	20.00
New Bedford	30,144	9	2	11.11	11.11	—	—	—
Salem	29,503	9	4	11.11	22.22	—	11.11	—
Chelsea	24,347	7	1	14.28	42.84	14.28	—	—
Taunton	22,693	8	2	12.50	25.00	—	12.50	—
Gloucester	21,400	6	1	—	—	—	—	—
Haverhill	20,905	7	0	—	14.28	—	—	—
Newton	19,421	4	0	—	50.00	—	—	—
Brockton	18,323	6	1	—	16.66	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	6	0	—	33.33	—	—	—
Fitchburg	13,433	5	1	—	—	—	—	—
Eighty-six Massachusetts towns	373,241	74	15	17.55	25.65	5.40	—	—

Deaths reported 2643 (no reports from Buffalo, St. Louis, and Providence): under five years of age, 1149; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 629, consumption 386, diarrhœal diseases 279, lung diseases 99, diphtheria and croup 74, measles 68, scarlet fever 68, typhoid fever 40, whooping-cough 29, malarial fevers 22, cerebro-spinal meningitis 19, erysipelas nine, puerperal fever nine, small-pox eight. From *measles*, New York 30, Chicago 22, Philadelphia, Brooklyn, and New Orleans four each, Pittsburg three, Cincinnati one. From *typhoid fever*, Pittsburg nine, New York and Chicago five each, District of Columbia four, New Orleans and Nashville three each, Boston two, Brooklyn, Baltimore, Cincinnati, Milwaukee, New Haven, Lowell, Springfield, New Bedford, and Bridgewater one each. From *whooping-cough*, New York nine, Philadelphia, Brooklyn, Boston, New Orleans, and District of Columbia three each, Chicago and Cincinnati two each, Baltimore one. From *malarial fevers*, New Orleans six, New York five, Brooklyn four, Philadelphia and Charleston two each, Baltimore, Cincinnati, and Nashville one each. From *cerebro-spinal meningitis*, New York four, Chicago, District of Columbia, and Chicopee two each, Philadelphia, Boston, Cincinnati, New Orleans, Lowell, Lawrence, Springfield, Holyoke, and Woburn one each. From *erysipelas*, New York three, Philadelphia two, Brooklyn, Chicago, Boston, and Baltimore, one each. From *puerperal fever*, Chicago, Boston, and Milwaukee two each, New York, Brooklyn, and Charleston one each. From *small-pox*, New Orleans four, Pittsburg two, Philadelphia, and Cincinnati one each.

In 104 cities and towns in Massachusetts, with an estimated population of 1,393,863 (estimated population of the State 1,955,104), the total death-rate for the week was 15.00 against 14.40 and 16.31 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending June 7th, the death-rate was 19.6. Deaths reported 3286: acute diseases of the respiratory organs (London) 249, measles 163, whooping-cough 131, scarlet fever 62, small-pox (London 40, Liverpool three, Hull two, Birmingham, Sunderland, and Cardiff one each) 48, diarrhœa 42, fever 39, diphtheria 24. The death-rates ranged from 14.1 in Leicester to 28.9 in Oldham; Birkenhead 16.1; Bristol 16.5; Blackburn 17; Nottingham 17.3; London 18.9; Birmingham 19.4; Sunderland 20.3; Sheffield 21.0; Liverpool 22.8; Manchester 23.1; Leeds 25.5; Wolverhampton 28.6. In Edinburgh 23.1; Glasgow 25.1; Dublin 21.9.

The meteorological record for the week ending June 21st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
June, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 15	30.303	54	63	44	69	58	80	69	NW	SE	SW	5	13	8	C	C	C	—	—
Mon., 16	29.973	69	81	48	64	50	65	60	W	W	NW	14	8	8	F	O	C	—	—
Tues., 17	29.922	73	88	65	74	54	73	67	W	SE	SW	5	7	9	C	C	C	—	—
Wed., 18	29.826	74	92	62	76	55	76	69	SW	S	SW	4	7	7	C	C	C	—	—
Thurs., 19	29.749	69	92	62	75	89	99	88	W	N	NE	10	14	3	C	R	C	4.05	0.92
Fri., 20	29.792	68	76	61	99	86	87	91	W	E	W	3	7	12	H	C	C	—	—
Sat., 21	29.713	80	93	67	81	46	74	67	W	W	NW	9	9	6	C	H	C	—	—
Mean, the Week.	29.897	69	83	58				73										4.05	0.92

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY FROM JUNE 21, 1884, TO JUNE 27, 1884.

MAGRUDER, D. L., lieutenant-colonel and surgeon. Granted leave of absence for one month. Paragraph 7, S. O. 143, A. G. O., June 20, 1884.

CLEMENTS, BENNETT A., major and surgeon. Ordered to relieve Major Jos. P. Wright, surgeon, of his duties as attending surgeon at the Leavenworth Military Prison, Fort Leavenworth, Kansas. Major Wright, on being relieved, ordered to report to the commanding general, Department of Texas, for assignment to duty. Paragraph 7, S. O. 144, A. G. O., June 21, 1884.

LIST OF OFFICIAL CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING JUNE 28, 1884.

KNIGHT, J. S., surgeon, placed on Retired List.

WHITING, R., passed assistant surgeon, detached from U. S. S. Vermont, ordered to Marine Rendezvous, New York.

BABIN, H. J., surgeon, detached from Marine Rendezvous, New York, ordered to U. S. S. Minnesota.

WELLS, H. M., surgeon, ordered for examination preliminary to promotion.

LUMSDEN, G. P., passed assistant surgeon, detached from U. S. S. Pensacola and placed on waiting orders.

APPOINTMENTS. — The Governor of Massachusetts has nominated as Commissioners on a System of Drainage for the Charles, Mystic, and Blackstone River Valleys John Quincy Adams, of Quincy, Solomon B. Stebbins, of Boston, Edmund W. Converse, of Newton, Edward D. Hayden, of Woburn, and Leverett S. Tuckerman, of Salem.

BOOKS AND PAMPHLETS RECEIVED. — Official Report of the Relief furnished to the Ohio River Flood Sufferers. By R. P. M. Ames, A. M., M. D., Assistant Surgeon United States Marine Hospital Service.

Sixth Annual Report of the State Board of Health of the State of Rhode Island. For the Year ending December 31, 1883, and including the Report upon Births, Marriages, and Deaths in 1882.

Treasury Department. Annual Report and Statements of the Chief of the Bureau of Statistics on Commerce and Navigation of the United States. For the Fiscal Year ended June 30, 1883. Foreign Commerce. Washington. 1883.

Address by the Rt. Rev. Hugh Miller Thompson, D. D., at Detroit. With an Introduction by Rev. Daniel C. Roberts. Reprint by State Board of Health N. H. 1884.

Education the Means for Unifying the Medical Profession, etc. By R. A. Kinlock, M. D., President South Carolina Medical Association. (Reprint.) 1884.

Medical German. A Manual designed to aid Physicians in their Intercourse with German Patients, and in reading Medical Works and Publications in the German Language. By Solomon Deutsch, A. M., Ph. D. New York: J. H. Vail & Co. 1884.

Original Articles.

DIETETIC DELUSIONS; THEIR DELETERIOUS EFFECTS, AND THEIR RECTIFICATION.[1]

BY R. M. HODGES, M. D.

THE amount of food required by a healthy adult will surprise most persons, even those who are good feeders. While this varies with the work performed, the heat or cold of the weather, and the condition and quality of the food taken, it has been estimated that, in the case of a man in health and of average size, the total daily ration should weigh six pounds thirteen ounces 128 grains, of which one pound four ounces 245 grains consist of dry food substance, the remaining five and a half pounds being water.[2]

Authorities on the subject of diet say that nitrogen is the most essential of all foods, and that a certain amount, about 316 grains, should be taken daily by an adult man. If the minimum quantity of nitrogen (which, for the sake of argument may be put as low as 250 grains) be not consumed, the various functions of the body languish, and a degree of weakness is induced, with greater or less rapidity, according as the quantity falls much or little below 250 grains per diem. But let the consumption drop to an average of only 138 grains, which is the smallest amount necessary for the bare maintenance of life, and in a year or two (not at once, for every body contains a store of nitrogen) important modifications of the nutritive processes, with distinct predispositions to disease, will inevitably be established.[3]

These results of experimental investigation have a practical significance. They find expression in the fact that a failure to consume all the essential elements of full rations, whether nitrogenous or non-nitrogenous, will sooner or later, as in the disastrous Irish and Lancashire famines, give rise to a train of symptoms which have been justly denominated those of "chronic starvation."

From the small knowledge of the value of food possessed by individuals as well as the public,[4] a diminution in its adequate supply easily escapes attention; loss of appetite is looked upon with indifference, and the first steps are inadvertently taken towards a condition which is as full of meaning in the case of a single person as when a whole community are its subjects. The absence or the keenness of appetite affords no indication of the amount of food which the stomach will digest and the body assimilate or an individual be benefited by swallowing.

The body requires not only to be fed but filled; and the object of eating is as often to bring up past arrears as to supply present demands. Quality of food, with all the heat and force it may contain, will not make up for quantity, which is required for constructive and reparative purposes. The constant waste of flesh and blood can only be compensated for by an equivalent assimilation of actual materials. Yet, in spite of this self-evident proposition, a large proportion of the better educated classes of the community readily deceive themselves and mislead others in regard to the amount of food necessary for their welfare and nutrition.

From a practice, often beginning in infancy with the common maternal prejudice against giving solid food at a sufficiently early period and in adequate amount, persisted in through childhood from an erroneous idea that "meat once a day" is an ample supply of animal food, still continued during adolescence, especially in the case of girls, under the conceit that eating heartily, or "between meals," is neither wholesome nor lady-like, a habit of going without enough sustenance is finally established in adult life which is further perpetuated and confirmed by a great variety of influences. Among the more common may be mentioned personal temperament, disturbed mental conditions, languid in-door life, fatigue and exhaustion, theoretical dietetic prejudices, fastidiousness as to eatables, unwise distribution of meals, insufficient variety of food, too rigid domestic economy, and, preëminently, the revived fashion of tight-lacing. These, and a multitude of similar agencies, apart from pathological derangements, are well-recognized causes of deficient bodily nourishment, and prolific sources of disturbed health, revealing themselves in deficient weight, "weakness," anæmia, feeble circulation, neuralgia, cough and throat trouble, constipation, headache, backache, nausea, and a variety of

[1] Read before the Boston Society for Medical Improvement, June 9, 1884.

[2] Under ordinary circumstances a daily ration should contain something like the following proportions and quantities of its main ingredients: —

Water	5 lbs. 8 oz.	320 grs.
Albuminoids or flesh formers	0 lbs. 4 oz.	110 grs.
Starch, sugar, etc.	0 lbs. 11 oz.	178 grs.
Fat	0 lbs. 3 oz.	337 grs.
Common salt	0 lbs. 0 oz.	325 grs.
Phosphates, potash, salts, etc.	0 lbs. 0 oz.	170 grs.

This might be furnished by a mixed diet of the following foods: —

Bread	18 oz.	Altogether these quantities will contain about 1 lb. 5½ oz. of dry substance, though they weigh, in all 6 lbs. 14½ oz.
Butter	1 oz.	
Milk	4 oz.	
Bacon	2 oz.	
Potatoes	8 oz.	
Cabbage	6 oz.	
Cheese	3½ oz.	
Sugar	1 oz.	
Salt	¾ oz.	
Water alone and in tea, coffee, beer, etc.	66¼ oz.	

It will be seen that the weight of this allotment exceeds by one ounce — even when the solid matter contained in beverages is omitted — that of the analytic table which precedes it. This excess is mainly owing to the fact that in all articles of food actually used there are small quantities of matters (cellulose, etc.) which cannot be reckoned as having a real feeding value. A. H. Church. Food, Some Account of its Sources, Constituents, and Uses, London, 1880, page 49 *et seq.*

[3] Parkes, Practical Hygiene, page 173 *et seq.* Gr. Hewett, British Medical Journal, August 4, 1883, page 225.

[4] The manufacturers of cellulose and paper pulp propose, by an advancement of scientific cookery, to resolve nut-shells, wood shavings, and sawdust into wholesome and digestible food. They remind us that a pear, which when full grown in autumn is little better than a lump of acidulated wood, with careful storing for two or three months, becomes, by nature's unaided cookery, the most delicate and juicy pulp which can be tasted or imagined; and that cotton and linen rags have been converted into sugar artificially in the laboratory of the chemist. — *Paper Maker's Monthly Journal*, February 15, 1884, page 49.

At the existing (1884) International Health Exhibition, London, the "Vegetarian Society" are furnishing a sixpenny dinner to four or five hundred people daily. From a carefully kept account of the substances used for the bill of fare the following "food equivalents" have been reduced, showing that each diner receives, of

Albuminoids	.63 oz.
Fat	.44 oz.
Carbo-hydrates	3.17 oz.
Mineral matters	.09 oz.

Physiologists lay down the standard diet for ordinary labor pretty much as follows: —

Albuminoids	4.2 oz.
Fat	1.6 oz.
Carbo-hydrates	18.7 oz.
Mineral matters	1.0 oz.

It appears, therefore, that it would require about six of the sixpenny dinners to support a man during a day's hard labor. — *Medical Times and Gazette*, May 24, 1884, page 712.

phenomena, unconnected with sensible organic alterations, but characterized by neurotic and functional symptoms easily magnified by the patient and overtreated by the physician.

The consequences of an insufficient dietary are most frequently exemplified in young people, of both sexes, growing school children, boys fitting for college, *débutantes* in society, young mothers of families, seamstresses, shop girls, etc.; and although they also appear at other periods of life, and under other circumstances than those which have been enumerated, it is during the years of adolescence that the utilization of feeding has its supreme value and its prophylactic and curative effects, as a therapeutic method, are most easily obtained. Sir Andrew Clark, Mr. Grailly Hewett, Mr. Clifford Allbutt, and others who have described the ailments which follow inadequate alimentation, have especially urged the necessity for greater attention to the question of diet in the bringing up of families.

The underfed constitute so considerable a class that a large part of medical practice is devoted to attempts at satisfying their importunate demands for "something which shall make them feel better." To attack with drugs symptoms which are daily regenerated by starvation is labor in vain, so long as that condition is permitted to exist. But if the famished tissues of those who say they are not sick, and there is nothing the matter with them, only that they "don't feel well," and "cannot eat," be permeated with the fat which is so often loathed in food, — if veins be filled with a more bounteous supply of blood, and if out-door air be made attainable without the expenditure of an already slender supply of strength, — their bodily functions will take on renewed vigor and be reanimated from better life-giving resources, force will be stored up, energy will be developed, and innumerable discomforts evicted. The futile use of iron, quinine, bitters, elixirs, and other so-called "tonics," either when self prescribed or methodically directed by physicians, and the insuccess of medicines, as a rule, to relieve the wearisome complaints daily listened to from persons whose mode of living is an injustice to themselves, do not always serve as a reminder that suitable nutriment, in some form or other, is the only real "tonic," and that its methodical consumption can alone relieve the protean afflictions of many, if not most, of these querulous supplicants. To say to them in a vague and general way that a nourishing diet should be taken, and that anxiety and overwork are to be avoided, is to give weak advice. The most rigid and literal obedience to fixed and precise rules in regard to the quantity and character of their food and the times of taking it — in fact, the carrying out of a process of "stuffing," practiced at short intervals of time, without regard to appetite and pushed to the stomach's maximum capacity of digestion — is necessary to extricate them from their deplorable situation.

It is not my purpose to describe in detail the ailments and functional irregularities which are successfully dealt with by dietary treatment, but to make some criticisms on prevalent habits of eating, to offer certain practical suggestions in regard to methods of improving them, and a few homely remarks on the extent to which feeding beyond inclination may be advantageously pushed, and the kinds of food, and its adjuncts, by which its effective adoption may be promoted.

The theoretical standard of a full ration has been given. The conventional standard, however, is an unsettled one. The statement that a person eats as much as other members of his or her family may mean a great deal or nothing, for there are large and small eaters both by habit as well as by example, and there can be no criterion of the amount proper to be eaten under given circumstances except that which is determined by a physician's judgment. This amount, as has been said, should not only be specified exactly, but its consumption insured, and nothing but precise and positive evidence accepted in regard to the fulfillment of the specifications given.

To secure a constant and sufficient conversion of food material by those who are or have been insufficiently fed vigilant supervision is often requisite. The personal influence which accomplishes this is a variable possession. Some persons can win obedience where others might capitulate, and will exhibit a persistency in carrying out their suggestions which makes successful feeding a certainty when more lenient and compromising tactics would fail. Enfeebled subjects, especially women, often feel a great satisfaction in being controlled, and in being led, lifted, pushed by a strong will. With such individuals resolute oversight tells. That which they say, in regard to eating, they "cannot do" they are made to do. When they think they "do their best" they are compelled to do more and better, and an assertion that they will "try" to eat is counterbalanced by a determination that they shall succeed. No symptom of the feebleness which results from being underfed is more characteristic of the condition than the almost invariable obstinacy of its subjects to accept advice which suggests an increase in their consumption of nutriment, and no steps in securing a mutual understanding between physician and patient are so difficult as those directed to overcoming the dogged resolution and pertinacity which are manifested in this respect.

As a stomach may become over-distended and permanently dilated by long gluttony or by the accumulated ingesta which a slow and feeble peristalsis refuses to move on, so may it also become contracted from the habitual want of sufficient victualing, sometimes to such a degree that the introduction of enough food can only be accomplished after the gradual dilatation of its receptacle. This may be effected by increasing the frequency of meals. The custom, common in this country, of leaving a long interval between them is the reverse of that desirable for those who require extra feeding. The ordinary European arrangement adopts a system which is worthy of imitation, a "little and often" being the motto of the eater. It is useless to attempt too much at one time. The stomach conforms slowly, and rebels at a certain limit, but a brief respite and a short intermission put it in a less antagonistic attitude. If, for the reasons given, or from mere disinclination, two meals have been all which the subject under treatment declares can be "got down," as is often the case, then three must be taken or the time between successive feedings shortened to two hours, according to the aggregate amount of nourishment intended to be given and the readiness with which its forced consumption is effected. It is an advantage, therefore, that certain periods of the day, not precisely fixed, but approximative, should be established as meal times. For instance, before rising, at the usual breakfast hour, in the middle of the forenoon, at the accus-

tomed luncheon, in the middle of the afternoon, at the regular dinner, and on going to bed.

It is a common impression that to take food immediately before going to bed and to sleep is unwise. Such a suggestion is answered by a reminder that the instinct of animals prompts them to sleep as soon as they have eaten; and in summer an after-dinner nap, especially when that meal is taken at midday, is a luxury indulged in by many. Neither darkness nor season of the year alters the conditions. If the ordinary hour of the evening meal is six or seven o'clock, and of the first morning meal seven or eight o'clock, an interval of twelve hours, or more, elapses without food, and for persons whose nutrition is at fault this is altogether too long a period for fasting. That such an interval without food is permitted explains many a restless night, and much of the head and backache, and the languid, half-rested condition on rising, which is accompanied by no appetite for breakfast. This meal itself often dissipates these sensations. It is, therefore, desirable, if not essential, when nutriment is to be crowded, that the last thing before going to bed should be the taking of food. Sleeplessness is often caused by starvation, and a tumbler of milk, if drank in the middle of the night, will often put people to sleep when hypnotics would fail of their purpose.[1] Food before rising is an equally important expedient. It supplies strength for bathing and dressing, laborious and wearisome tasks for the underfed, and is a better morning "pick-me-up" than any hackneyed "tonic."

That the particular food is alleged to be unpalatable, or the hour at which it is to be taken inconvenient, is of no importance. Indeed, it sometimes lends a helping hand to have each mouthful considered the equivalent of a dose of medicine. A tablespoonful of cod-liver oil is often taken regularly and amiably when even the smallest quantity of some inviting delicacy will not be swallowed. It is a matter of observation, says Mr. Francis Galton, "that well-washed and combed domestic pets grow dull. They miss the stimulus of fleas." The energy required to dispose of that which is disagreeable is often a discipline of great service to certain classes of persons. Their faculties need to be whipped and spurred to prevent them from perishing by disuse, and the degree of vigor capable of being generated is often proportionate to the amount of coercion to which they are subjected.

The rugged way, however, may be smoothed by various procedures, and need not be made unnecessarily hard to travel. It is helped by selecting food containing the most nourishment and the least bulk, and which is easiest to swallow after a minimum of mastication, or without any. The culinary art facilitates the ingestion as well as the digestion of meats, which, without its cajolery, might be tough and uninviting. Skillful feeding by a nurse who recognizes the art which may be exhibited in coaxing food into the stomach is often of advantage. Food thus administered must be introduced in large mouthfuls. Every gourmet knows how necessary this is for the satisfaction of the palate, and the correctness of the fact is substantiated by reason and by analogy. Well-shaped, wisely-seasoned, large morsels make a relishing and appetizing mouthful, inviting repetition. In divided bits they quickly satiate or excite repugnance. By this epicurean method the stomach is rapidly and persuasively charged with a sufficient supply of nourishment, as it never can be by the feeble pickings of an apathetic eater. *L'appetit vient en mangeant* is a paradoxical adage constantly verified. Not only mere disinclination to eat is often successfully overcome by persistent feeding, but a liking for, and dependence upon, full and hearty meals is established, and, what is more, retained.

In cases where food is urgently called for its artificial introduction is an easy and beneficial manœuvre. It does not require a stomach tube, and has but little resemblance to the procedure resorted to with the insane. It may be practiced with insignificant discomfort by means of a soft rubber catheter, not exceeding a No. 12 in size, fitted to a small glass tunnel, into which the nutriment is poured, or it may be sent through the tube by a Davidson's syringe. The catheter need enter but a short distance into the œsophagus. If no resistance be offered the operation can be performed by almost any one, even by the patient himself. Milk, cream, broth, eggs, and homogenous liquids are thus readily deposited, and to the desired extent, in the stomachs of those disinclined to eat.

The number of females, especially those who "do their own work," whose food consists almost wholly of bread and tea, is very large. How inadequately they are nourished is shown by the statement that, in order to get the required amount of aliment, persons who eat nothing else must consume about four pounds of bread. As this is so much more than any one can dispose of with comfort, the practice of eating butter with bread is almost universal. This not only meets the necessity for a heat-producing, non-nitrogenous food, but the unattractive character of dry bread as an eatable is compensated for by the relish of a savory addition. In proportion as the use of butter is increased the requisite quantity of bread may be decreased. To eat "more butter than bread" should not therefore be the reproach to growing children which it is often made, and the large amount of the former which may be profitably disposed of by the underfed, without "disturbing their stomachs," is not surprising if the process by which oleaginous substances are taken into the system is recalled. "Fat, butter, and oily matter in general require no digestion, the emulsion into which they are mechanically converted, chiefly by the pancreatic and duodenal secretions, passes (almost directly) into the general circulation of the blood."[2] For reasons similar to those which make cream and butter such useful articles of diet, and because the habitual food of insufficient eaters is so lacking in fatty matter, cod-liver oil has acquired its well-deserved place among therapeutic and alimentary agents.

The tendency of those whose appetite is deficient to lay great stress upon their readiness to take food which does not require mastication makes them willing consumers of soup. And yet of all articles entering into the common dietary soups are perhaps the most deceptive, and certainly the most important to discountenance with the underfed. They fill up the stomach at the expense of solid, "staying" nourishment, and contain so little in the way of sustenance that they are therapeutically almost worthless. As a rule they are but some form of meat tea, and are now known to have a food value not unlike that which urine

[1] It should be borne in mind that a full bladder is a frequent cause of early morning wakefulness. Rising and passing water will often send restless sleepers back to bed for a refreshing nap, which without relief from this source of reflex irritation would not have occurred.

[2] Church, p. 36.

would possess, were it drank, and which they resemble chemically.[1] "They may have on the system a stimulant action somewhat analogous to theine. They may render more prompt and efficacious the assimilation of any wholesome food with which they may be associated, and they may even give so effective a fillip to an exhausted system as to enable it to dispense for a time with real food, but it is clear that they must not be looked to for direct nutrition."[2] The established use of *bouillon* at lunches and "Germans," and of a "clear soup" at the commencement of dinner, is thus accounted for; and it is only in a sense, such as has just been indicated, that the Crimean saying, "Soup makes a soldier," has any justification in fact.

Broths, however, that is, soups which contain large quantities of solid matter, disintegrated meat,[3] vegetables, macaroni, vermicelli, *pâte d'Italie*, rice, barley, sago, tapioca, etc., are often, and in proportion to the consistency thus given, excellent alimentation. They are palatable and easily consumed in considerable quantities at a time. *Soupe à la Reine*, *purée de gibier*, various vegetable *purées*, chowder of fish, *bisques* of oyster, clam, lobster, are illustrations of the perfection of this kind of cookery. That they may be what is sometimes called "rich" is no objection. The digestive powers of the underfed are usually good, though the owners of them may not think so. They are apt to be active and ravenous even if the appetite is not.

Notwithstanding its capacity to digest there is, invariably, something repulsive to an insensible stomach in what are conventionally called "roasted joints." This antipathy, together with considerations of convenience as regards the size of portions to be cooked, makes it almost imperative for protesting but frequent eaters that meats should be either broiled or stewed; and steaks of various kinds, chops, cutlets, chicken, game, some kinds of fish, and shell fish, become, therefore, the only really available resources of the caterer for an ill-ordered appetite. And yet no more difficult undertaking can be given non-hungry patients than that of eating beefsteak. Apart from its somewhat uncertain quality nothing requires more mastication, and the class named always declare that there is no item of food of which they are already more "tired." Any other variety of meat, mutton, veal, venison, etc., cooked in the form of steak, is more readily eaten. The short, compact fibre of mutton chops, especially those from the loin, makes them less likely than beefsteak to be badly cooked, and far easier to be consumed. Well selected, carefully-cut lamb chops, in their proper season, are a delicacy of the highest order, and rarely fail to be appreciated by the most benumbed eater.

Meats stewed, or semi-stewed, and then partially browned in the oven (braised, as it is called in the language of cookery) are attractive and submissive preparations, and this method of cooking is an excellent one for purveying small portions of animal food. In the various forms and denominations of stewing and braising the *cordon bleu* finds scope for the highest aspirations of culinary art.[4] They impart an appetizing flavor to viands cooked to extreme tenderness, the perfection of these methods being found in their application to sweetbread, a costly luxury, but an article which, by its slight demand for mastication and its nutritious qualities, is peculiarly adapted to the requirements of an invalid eater. Others of the viscera besides the pancreas and the thymus gland, namely, the brains, the liver, the kidneys, the testicles of lambs, successfully lend themselves to this process of cookery, and, like calves' heads, pigs' feet, and sheep's tongues, are converted into delicate and easily assimilated nutriment for those who are ignorant of, or can overcome, the associations which they suggest.

Of various mechanical processes available for rendering food easily eaten preparatory mincing offers great advantages, and is particularly applicable to chicken and veal. A common and attractive method of serving both in the form of minced meat is that of *croquettes*. I am at a loss to know why veal is so often proscribed rather than prescribed. Its chief defect is in being a lean meat, containing more water and less fat than mutton or beef, and consequently of subordinate nutritious value. It is, however, the standard meat of France, as beef is of England, and properly chosen veal, from large calves, is open to no dietetic objection which I am aware of except the difficulty of cooking it well. It is not less digestible than other young meats, and if occasionally "poisonous" it becomes so from decomposition, which, in the season of its abundance, more readily takes place from keeping, or changes in the weather, than is the case with meats of maturer growth. But this, like poisoning by partridges which have been too long kept in winter time, is an inexcusable accident.

In spite of the somewhat flippant assertion of a justly distinguished medical writer "that there is a growing incapacity to digest fat which is truly alarming," I do not hesitate to assert that of all the modes in which minced meat may be presented the calumniated and much-libeled sausage is, in winter time, one of the most useful and successful articles for frequent feeding. Lean and fat meats, more digestible together than separately, are discriminately mixed in the compact and appetizing form of this ubiquitous and popular comestible, the sole secret of whose easy digestion is that it should not be eaten except when it has become thoroughly cold after cooking. Bread and butter can be tolerated with complete immunity when hot buttered toast would provoke exasperating dyspepsia, and it is exactly thus that sausage cold stands in relation to that which is served hot. Presenting the albuminates and fat in an economical, savory form, easily obtained and made ready for consumption, sausage, in some countries, might almost be said to have become a national food, and it offers to the fastidious or indifferent eater an article of diet from which great benefit may be derived. A trial of this stigmatized edible will be followed by a ready recognition of its alimentary value in the class of cases under consideration.

As has been remarked already, food to be taken outside the conventional meal hours must be of a kind

[1] An old and essential custom prescribed recently-passed urine at the completion of every case of labor. Such a practice, it would seem, was not altogether absurd. I can myself recall an instance when this draught was administered after her confinement, as a matter of course, to the wife of an eminent medical gentleman, at that time connected with Harvard University.

[2] T. Twining, Familiar Lessons on Food and Nutrition, London, 1882, page 212.

[3] The meat from which soup is made, allowed to become cold, should be pounded to a paste in a mortar, and then returned to the soup. Veal, pigeon, and rabbit are especially adapted to this procedure. "French" cooks prefer to make "chicken broth" from rabbit.

[4] The details of braising and other refined culinary processes are feelingly particularised by Sir Henry Thompson, in Food and Feeding, third edition. London: 1884.

easily obtained anywhere, readily "kept in the house," and which does not demand preparation or delay. Few persons can command the services of a "professed cook," or of a good "plain" cook, or have either at their disposal every two hours in the day. The practical articles of diet which meet these restricted requirements of convenience are few, and of these the chief in importance are eggs, milk, cream, butter, and bread.

"Raw albumen is one of the most digestible of foods; coagulated, it is comparatively indigestible."[1] Eggs to be easily digested must be eaten uncooked, since albumen under prolonged heat acquires progressive degrees of toughness.[2] When cooked, buttered, salted, and peppered they are soon tired of as articles of food, and alleged to be "bilious." Cooking, moreover, involves waiting and preparation. An uncooked egg is always ready and at hand, is clean to be kept anywhere, and scarcely needs to be broken into a glass. With a little knack it may be swallowed direct from the shell, as most persons know if in childhood they have had access to country barns. A raw egg weighs from two to two and a quarter ounces, and is said to contain about the same flesh-forming and heat-giving material as an equal amount of butcher's meat.[3] It offers in perfection the quickest and neatest mode of taking a large equivalent of substantial and nutritious food at a swallow. Every bar-room realizes this, and supplies its counter with a bowl of eggs. The steady drinker, who has eaten nothing for breakfast and has no appetite, but knows the injurious effect of a drink on his empty stomach, can crack an egg, quickly dispose of it, and justify himself for an early dram. Even "soda shops" appreciate their value, and dispense them with lemonades and phosphates. Beaten-up eggs are the certain provocative of dyspepsia. When subjected to this process with the infinite pains taking of an attentive friend or nurse an inviting draught of creamy froth is brought to the unfortunate recipient, — a tumbler full of air, which has been introduced in the largest possible amount to a given quantity of egg, milk, wine, sugar, and nutmeg, — than which nothing could be better devised to promote indigestion, abominable eructations, and the most uncomfortable flatulence or acidity. Every beer drinker has the good sense to blow off the "head" of his mug of beer, or to wait patiently for the froth to subside, before he imbibes the draught; and if crotchety persons will not learn the trick of swallowing an egg whole, they can compromise the difficulty by slowly stirring the white and the yolk, which may be thus mixed together and made to seem a less revolting dose without the incorporation of air by beating. Taken as medicine, and looked upon as such, eggs are at least equally palatable with cod-liver oil, for which they offer an equivalent substitute, adapted to winter or summer, as the latter hardly is, and are far more readily digested. There is no limit to the number which may be taken with advantage continuously and for months at a time. Eighteen eggs are required to furnish the flesh-forming materials and other nutrients sufficient for the various needs of an adult man in one day. No more striking illustration of their concentrated food value, or a better proof of its general appreciation, can be given than the statement that during the first quarter of 1876, in Great Britain, the consumption of eggs reached the enormous number of seventeen and a quarter millions.[4] Fifteen millions were imported into this country from Europe in the year 1883. It is but fair, however, to remember that a vast number of eggs are used in the arts, especially photography, and in manufacturing processes.

Milk and cream are convenient and therefore important and desirable articles of food. It is a common assertion of patients that milk "always disagrees with them," — that they have "never been able to take it." This statement, which, as a rule, may safely be attributed to mere prejudice, is also in some cases a true one, simply for the reason that the milk is drank too rapidly, or because it is not rich enough, an easy remedy being to take the given quantity more slowly, or to increase by addition the amount of cream which the milk naturally possesses, the trouble being due, in the first instance, to the fact that a large and solid cheese curd is suddenly formed in the stomach by the rapidity with which the milk is deposited in that organ, and in the second, to the hardness of the casein derived from milk with an insufficient percentage of cream, which is always inconstant in amount (varying between ten and fifteen per cent.) or in composition, the water alone ranging from forty-five to sixty-five per cent.[5] Milk is often too poor, but never too rich, for purposes of enforced nutrition, and the fact is incontrovertible that it is the model food for digestibility.[6] By adding cream to milk the amount of fat is increased and the curd is softened; and its digestion can be still further facilitated by the disintegration of its coagula, accomplished by crumbling into it bread, cracker, etc., or by the addition of a small amount of cooked meal or flour. By this latter means cold milk is made warm, which gives it an increased efficacy. This end may also be attained and the distastefulness of warm milk removed by flavoring it with the preparations of cocoa, weak coffee, or some of the inert substitutes for the latter, sold by grocers, the best of which, it has seemed to me, is known as "new era coffee," consisting simply of roasted and ground wheat. But, as hot milk demands a certain amount of trouble, cold milk alone, or with bread broken into it is, after all, the only practical resource so far as its use for frequent nutriment is concerned; and two quarts of milk, or three pints of milk and one pint of cream, are not more than the minimum quantity desirable for ingestion in twenty-four hours. Clear cream may be administered in doses of a wine-glassful after each meal, as any other medicine might be, and a great deal can be disposed of by eating it liberally added to cooked fruit and various dessert dishes. *Blanc mange*, Italian cream, and the various forms in which many delicate farinaceous articles are cooked, may thus be made more eatable through the zest given them by this accompaniment. There is a great difference in the palatableness as well as digestibility of cream which is obtained from milk by centrifugal force, as is largely done for the market, and that which is skimmed after

[1] Twining, p. 184.

[2] Eggs should not be cooked by boiling but by placing them in hot water, and allowing them to remain there from seven to ten minutes.

[3] Church, p. 147.

[4] Church, p. 148.

[5] Church, p. 136.

[6] The analysis of "market" milk sold in Philadelphia and New York is as follows: —

Water	87.7 per cent.
Total solids	12 3 per cent.
Total solids, not fat	8.48 per cent.
Fat	3.75 per cent.
Milk sugar	4.42 per cent.
Albuminoids	3.42 per cent.
Ash	0.64 per cent.

A. R. Leeds, Medical News, July 21, 1883.

"setting." This distinction should be borne in mind in prescribing cream which is to be taken uncooked. The last-named product is by far the most desirable article.

Very few patients, especially women, drink a sufficiency of water to maintain their health or an adequate nutrition. Water is an important constituent of food; is, indeed, the carrier of food into and through the system, and forms more than two thirds of the whole body. Neglect to keep up the supply of water leads to a diminution in the quantity of blood, and lessens the body's strength.[1] When it is remembered that there are daily eliminated from eighteen to thirty-two ounces of water from the skin by perspiration, eleven ounces from the lungs, and fifty ounces from the kidneys, it is easy to see that the amount consumed by many persons falls short of the demand, and that their bodies must be insufficiently supplied with the requisite degree of moisture; some sixty-six ounces of water alone and in tea, coffee, beer, etc., being required for a daily supply over and above that which is contained in the solid food of a full ration to make good the average regular waste.[2] The constipation which is so common in ill-nourished persons is largely due to a want of liquid in the intestinal canal. This, therefore, will be ameliorated by the free use of water, as is also the constipating tendency of milk which is sometimes complained of, the curds being liquefied and reduced in size, and thereby made more readily digestible. Its effect on hardened fæcal masses or accumulated mucus in the intestines is equally obvious, and explains in part the intention as well as the success of the hot-water craze at present so popular.[3]

The underfed are benefited, and the process of feeding is helped, by alcohol. But the amount of alcohol which such persons may take as a food adjunct with advantage is very small. The cumulative effects of a medicinal dose at stated intervals are of greater utility than the more instant result of a larger allowance swallowed in a single drink. A measure of alcohol which produces an effect quickly, that is, which flushes the face, or exhilarates, as a sherry-glass of wine does with most females, for instance, is a toxic dose, and will be followed by reaction. It is a quantity short of this which is allowable. A teaspoonful, or at most a dessertspoonful, three or four times a day, is usually as much as can be borne without such sequelæ as are above alluded to. Spirits serve their purpose better than wine, for the reason that the relative quantity of alcohol administered is more measurable. Wines vary in strength; spirits are comparatively uniform. Tinctures even, or elixirs, may be given when spirits are objected to either on principle or from prejudice. In any case there should be a large dilution with water, as a more gradually stimulating effect is thus produced. Alcoholic medicines ought never to be taken on an empty stomach.[4]

The subject of bathing, incidentally alluded to, leads me to call attention to the fact that cold baths chill down the feeble circulation of the badly nourished, and provoke a physical torpor which is obstructive to the processes of nutrition. They drive the blood from the surface of the body in upon vascular organs, whose circulation is already sluggish from general weakness. They thus produce discomforts which aggravate existing languor, and enhance the feeling that food and drink ought not to and therefore cannot be taken. A bath described as one "from which the chill has been taken" is too cold for subjects under medical advice who are in need of extra feeding. Great pains should be taken to discountenance everything which reduces the bodily heat, and employments or amusements which in any sense tax the strength ought to be abandoned when a forced diet is attempted. Even ordinary exercise is often objectionable, and its complete discontinuance sometimes so important that confinement to bed is a necessity. Those who raise animals are practically made aware that a restless disposition is fatal to successful growth in vigor and flesh. The truthfulness of this observation is equally apparent with human beings who need "building up" in the literal sense of these remarks.

Mere fattening is not the object of full feeding, but it is to a certain extent its necessary accompaniment. The motive of the measure, as has already been stated, is to add to the quantity and quality of the blood, and it is hardly possible for an individual to grow fat without a decided increase in the volume of his blood. Weighing at stated intervals is therefore an important procedure, and there is no other way to make sure that the subjects of treatment are sufficiently well fed to gain blood. Persons who put on fat rarely fail to improve in color; their comfort is enhanced; warmth of body is gained, in itself no slight improvement; the pulse becomes fuller; the cheeks grow redder; the spirits are raised; the general mien becomes brighter; and these phenomena are explainable only by admitting that there has been an accession to their stock of blood. The scales thus become a thermometer of improving health and strength, by the aid of which the physician measures the progressive results of his regimen. Like the "pass-book" used at banks, they reveal in a ready and serviceable way the healthful standing of an individual, the relation of his resources to the wear and tear checks which he is continually drawing, and whether his account is nearly or quite overdrawn or superfluously plethoric. They ought not to be put into requisition too frequently, and only when there is reason to think that an encouraging increase of weight has taken place. This should manifest itself soon after systematic feeding is begun, and continue at the rate of two pounds a week, or not less than one pound, so long as improvement seems desirable, or until a weight has been reached the minimum of which shall be equivalent to two pounds for each inch of stature.

Experience and observation have universally confirmed the expediency of a heartier and more system-

[1] The characteristic thirst which attends great and sudden losses of blood is a symptom of interest in this connection.

Some valuable comments on the therapeutic uses of water, by Mr. Lauder Brunton, may be found in the Practitioner, May, 1884.

[2] Church, page 51.

[3] There was perhaps more common sense than Martin Chuzzlewit supposed in the American habit, prevalent when people lived more frugally, and went to bed with empty stomachs oftener than nowadays, which he noticed in his fellow boarders at Mrs. Pawkins', "who, after taking long pulls from a great white water jug upon the sideboard, and lingering with a kind of hideous fascination near the brass spittoons, lounged heavily to bed." Water drinking was indulged in thirty years ago more than at present, and in the half-starved existence which bred the lank and conventional type of American in those days, I cannot but believe that the comfort and well being of the then living community were greatly promoted.

[4] There is much pragmatical talk about "pure liquors," and the difficulty of obtaining them. It may be questioned whether alcohol and water, except for an educated and fastidious palate, is not as wholesome for medical uses as any high cost wine or spirit. Noxious impurities, when they exist, are usually owing to imperfect distillation, or lack of age, rather than to deliberate "doctoring."

atized diet than recently prevailed. Its utilitarian advantages are publicly recognized. Within twenty years the rations of armies, of institutions, charitable, penal, and medical, have been liberally increased. Family habits in regard to eating, since the flush times of the Civil War, have greatly changed, and the large allowance of food requisite for the maintenance of a sound health can scarcely be exaggerated in any statement of its details. In the application of this accepted dogma to special and personal cases there is much, however, still left to be desired.

I cannot better conclude this paper than by a paraphrase of Mr. Clifford Allbutt's words in his recent Gulstonian lecture,[1] wherein he observes, although not precisely in the language which follows, that: Under the benign and self-controlling influences of an amended nutrition the domestic atmosphere changes. Sore throats and trivial indispositions which once raised the frequent suggestion of a conflict with school, or a dinner, or an evening party, no longer present themselves as subjects for anxiety. Headaches and vague, transitory pains disappear. Ill temper, fretfulness, the fidgets, crying-spells, shrewishness, sleeplessness, listlessness vanish away, and the complaint of being "good for nothing" ceases to be made. By the building up of digestive resources a reserve of strength, which never before existed, is created, or a wasted one is restored, not merely for use on great occasions, but, by its wisely managed expenditure, to serve permanently for the silent work and equable running of vital machinery. Convince underfed invalids that no further defalcation of diet or new combination of drugs is needed; that, instead of waving dishes aside, like the physicians of Sancho Panza, they should be indulged in liberally, and they will find health within their reach; and by careful advances and the frequent repetition of small and highly nutritious meals realize that they can steadily eat their way upwards to a regenerated and tranquilized condition of body and mind.

SIX GENERIC DRUG MODIFICATIONS.[2]

BY HENRY M. FIELD, M. D.

Thirdly. Respecting the modifications which *age* introduces into medicinal action, space can be allowed for but brief illustration. Viewed from this stand-point, it would be difficult to find a greater contrast, throughout the entire range of commonly used medical substances, when prescribed to the young, than is presented by two narcotics which generally stand side by side in our classifications, namely, opium and belladonna. For, while the extreme type of susceptibility to the former is invariably presented by the infant, the extreme type of susceptibility to belladonna may well be found in the adult, provided it be a female of a certain temperament and physique. Again, children are but little susceptible to the toxic effects of quinia; indeed, some of Briquet's experiments would seem to show that they are capable of making a firmer stand against massive doses than adults even. *Per contra*, strychnia should be used, if prescribed to the young subject, with extreme caution. A number of severe and fatal cases of poisoning are on record from its use, hypodermically exhibited, as against paralysis sequential to diphtheria. Now farther investigation may lead to a modification of present views, but there is certainly much support for the position that the sympathetic nervous system is about equally susceptible to response in the young and adult. Materials which exert their chief physiological impression upon the body through the sympathetic — as belladonna does largely and quinia almost altogether — will be but little modified by the age of the subject, at least short of senility. Whereas materials which act primarily and chiefly through the cerebro-spinal axis, as does opium on its upper portion and strychnia on its lower tract, must, if given to the young, be closely watched and directed with great caution.[3]

In old age this principle must be differently interpreted, at least to an extent. The aged do not bear quinia well, and the remedy should be used with care. The operation of narcotics generally upon the aged has not received the attention it deserves; hyoscyamus, especially, so innocent with young children, should hardly be used at all on account of its tendency to produce a peculiar kind of mental aberration; a question not of the sympathetic, as we might have assumed, but of the brain. Chalybeates are measurably contra-indicated, so are emphatically saline cathartics. So are, to an extent, remedies which act upon the vaso-motor system and whose influence is conditioned upon the production of a modification of calibre of arterioles and capillaries, as in the case of chloral hydrates and the bromides.

The relation of remedies to increased arterial tension is a fact of quite constant consideration with the aged. The small dose of digitalis, to energize cardiac contraction, may be opportune and beneficent in action; a few drops too much, increasing the stringency of the already too tense arteriole, may be equally disastrous. Herein probably lies an explanation of the intolerance of the aged for the larger doses of quinine, — and of ergot as well, — their physiological influence upon the heart and circulation presenting analogy with that of digitalis. Still again, hereby is explained and justified the popular repute of sweet spirits of nitre in old age, possibly greater in England than in this country; Dr. Leach having shown that the influence of this mild and widely applicable remedy is procured through its power to relax arterial tension, — this by virtue of its nitrous acid, an ingredient and an influence which it possesses in common with nitro-glycerine, nitrite of amyl, and nitrite of sodium, — an influence greatly to be desired in the fever, and in the arrested skin or kidney function, of the aged subject.

Much of ingenious philosophizing has been devoted by certain writers, who are in love with the theory rather than the practice of therapeutics, to the problem presented by the great variety of modifications which infancy introduces into the action of medicine. I do not know that it has occurred to any one to apply to this question the philosophy of Asclepiades. And I have sometimes wondered, by the way, — if a momentary diver-

[1] Lancet, April 5, 1884, page 605.

[2] Continued from page 6.

[3] I cannot, however, agree with Albertini, who goes altogether too far in his statement that "children of fifteen months to five years of age may take, with impunity, doses of belladonna which would give rise to many symptoms of poisoning in adults." Only recently I had the misfortune seriously to alarm a mother for whose babe of six months I had ordered bellad. tincture for spasm of the bladder. Four drops, thrice repeated in the course of twelve hours, produced a scarlatinal rash over the entire body, wide dilatation of the pupils, and a considerable degree of excitement, alternating with something like stupor. That children will bear belladonna as well as adults is as much as it is safe to assume.

sion may be pardoned, — that some shrewd speculator in measures calculated to relieve those who suffer from the ills that flesh is heir to, observing the present craze of the community for the monstrous and the absurd in medicine, with whom the *omne ignotum pro magnifico* of homœopathy is an unfailing source of marvel and satisfaction; I have wondered that some such mountebank has not thought to erect a system of therapeutical statics and dynamics upon the cardinal principle of Asclepiades. For Asclepiades, although the author of the proverbial wisdom which we often quote, "cito, tuto ut jucunde," although the friend of Cicero, who speaks of him in his oration *De Oratore* as his personal friend and praises his skill in physic, was yet, in many things, a not unworthy predecessor of Hahnemann. Like Hahnemann, he affected to be wiser than, and to ridicule, all the fathers of medicine, and like Hahnemann he constructed his entire practice upon a preposterous proposition, — the one as preposterous in pathology as the other in therapeutics; both alike as captivating in the sound, to the untrained at least, as misleading in the sense, — to wit, that *all disease is due to obstruction of the primary atoms in their passage through the invisible pores.* This might serve us well in removing the difficulties of our present question, — if anything could be expected of remedies in such narrow and exiguous conflict, — for surely in infancy the atoms must be particularly "primary" and the pores particularly "invisible."

It were to be wished there was time to consider, practically, the modifications occasioned by infancy in the action of three prominent drugs, namely, opium, antimony, and mercury. Dr. Beck is the only authority, so far as I know, who has thought it worth while to write upon this subject, and his monograph was published some years ago. And yet this is a matter of very great concern to every practitioner. As respects opium, the young physician, unless he have some other guide than text-books and lecture-courses afford, and unless he be a man of exceptional caution, is in danger of gaining his early information through fatal experience. I can remember several young children that I believe I nearly killed by opium in the first years of my practice, and I went by the books. The fact that this drug acts upon the upper part of the spinal cord, below the brain, in the very young, when the inhibitory power of the brain over this portion of the nerve tract is at its minimum, and the fact, which Seguin appears to have established, that the "convulsibility" of the spinal cord ceases at about three years of age, suggest the importance of avoiding opium, so far as we may, till the child has passed this age.

Some one has said that the words *never* and *always* should not be used in connection with any medical subject. If there be an exception to this rule I think we have found it when we insist that *antimony should always be avoided, should never be used, in treating the very young.* Ipecac will do almost or quite as well, and ipecac is wholly safe. A prominent English writer, whose name I do not recall, writing ten to fifteen years ago, suggests as explanatory of the much greater fatality of croup in rural districts than in London the so much freer use by the country practitioner of antimony in treating the disease. It will be admitted that this drug is not as much used as formerly, but it is still employed altogether too much, that is, with the infant. Again, we insist our remarks are pertinent when it is remembered how commonly and freely the seductive "hive syrup" is still used in domestic practice, often with entire unconsciousness, even on the part of intelligent families, of its composition and its power.

Fourthly. The modification which may take place in a remedy by the *contemporaneous operation of another drug*, once fairly considered, would lead us to the discussion of combination, antagonism, etc., and all this, of course, must be set aside. A recent astute writer has well observed that there are few facts of pharmacodynamics, as, indeed, of practical therapeutics, of equal importance with that which has to do with the elimination of a medicine, adding that the old aphorism "*non agunt nisi soluta*" should rather read *non agunt nisi secreta.* Gubler has applied the term *vector* to a material which diverts another material from its usual avenue of elimination. Iodine, and probably bromine also, in combination with iron, is an illustration of the vector, the metal in this form or companionship being carried to the salivary glands, at least in a measure, a direction which no other chalybeate has been observed to take. Camphor is not eliminated by the kidneys, and would seem to have the power of carrying with itself, away from the kidneys, cantharides, which, otherwise, would seek this avenue of egress from the system; hence the influence of camphor as an antidote. "Camphor, in whatever doses taken by the stomach, is never passed in the urine" (Gubler), but monobromated camphor leaves the body by the kidneys, the bromine serving as vector.

Fifthly. The modifications impressed upon the action of a prominent material, for example, quinia or opium, *according as the influence* exerted is *physiological or therapeutical*, are more or less familiar to every tyro in medicine. Thus the most innocent substance can be converted for the occasion into the most lethal, as iron in certain states of disease. *Per contra*, the most powerful alterative becomes an emphatic tonic, corroborant, restorative; and if that which, at all other times, is a most potent and a universal disorganizer, does not directly serve in the rôle of hæmatosis and histogenesis, it does certainly stand as the essential vital catalytic, the *sine qua non*, without whose interposition these processes cannot, to the best estate, be resumed and continued. All this we observe of mercury in a certain stage of syphilis.

Every physician is familiar with the difference between the physiological and therapeutical action of alcohol. I have known a delicate woman, suddenly exsanguinated, consume a bottle of brandy in the course of a single night, and never once, as the saying is, feel it in her head; and yet, from previous experience, she could not probably have told the difference between cognac and sherry. Suddenly produced anæmia is one of the three conditions, — anæmia, spasm, pain, — and first among the three, which renders safe and beneficial large doses of opium; we have therapeutic for toxic impression, as in the teaspoonful doses and upwards ordered by Gouch and Hamilton in puerperal hæmorrhage.

An incident related in a sketch of the life of the late eminent orientalist and hero, Edward Henry Palmer, illustrates the principle, now being considered, in respect of alcohol. "One night, in 1866, he fell back on the sofa, and lay resting on his head and heels. The case closely resembled tetanus. Gradually he came round, and for months afterwards was compelled to drink enormous quantities of brandy, which produced no more effect on him than so much water. One night

he was in the rooms of a man who produced a bottle of whiskey. Palmer drank a glass of hot whiskey and water, and then leaned over and whispered to a friend, 'Take me away at once or I shall begin to talk about my rich uncles.' When he reached the bottom of the stairs he was so drunk he could not stand. 'You never before,' he said next day, 'saw a man who did right in thanking God that he was drunk. I was drunk last night, and now I know that I am quite well again.' There was no more drinking of brandy."

All that we know of the physiological action of the remedy would lead us to say that iodine never kills unless given with intent to kill or through ignorance or carelessness, equally culpable; and yet a brief course of iodine has been known to cause death. "True œdema of the glottis, as has been proven by the observations of Petitjean, may be produced by medicinal doses of iodide of potassium, *but only* in persons suffering from laryngeal affections before receiving the drug."[1] Here, through modification brought about by topical disease, the otherwise harmless and slight catarrh of the larynx, always liable to attend the physiological action of iodine, is magnified into a condition capable of causing speedy asphyxia.

Again, medicines may stand closely together as respects their physiological manifestations which have little in common when applied as remedies; physiologically nearly allied, therapeutically they touch at very few points or not at all. The phenomena of cinchonism and iodism are singularly alike, but cinchona belongs to the class of tonics, and iodine to the class of alteratives, while their medicinal indications are widely different. The physiological influence of ergot, digitalis, and quinia, as brought to bear upon the heart, stomach, and cerebral circulation, presents striking analogies, but not such as can be safely followed very far in practice, and of which, indeed, but little practical account can be made.

Once more, the physiological influence of a subordinate or obscure drug may tread closely upon that of a drug of the highest value, and yet the therapeutical power of the former be almost nil, or its range of medicinal influence very limited. Thus the excitation which follows apiol, in doses of two grammes and upwards, suggests at once the more characteristic phenomena of cinchonism as expressed by ringing in the ears, headache, titubation, and tendency to vertigo. The effluvia given forth by saffron possesses properties allied to those of the anæsthetics, producing, after a time, headache, muscular feebleness, a sort of indolence, torpor, and even stupor," etc., etc.[2] It goes without the saying that apiol would be a poor dependence in, perhaps, so much as one of the many conditions in which quinia is employed, while the aromatic odors of saffron would accomplish little towards the production of anæsthesia.

Sixthly and finally. Medicines are materially modified according to the *method and form of their use.* We have suggested changes caused (1) by the avenue through which the remedy reaches the system, (2) by its pharmaceutical status, and (3) by posology or dosage.

For a long time the constitutional effects of mercury were procured solely through inunction. It was not ventured to introduce into the interior of the body so powerful a poison. Our experience with the oleate, of the last few years, has partly revived the practice of former centuries, in less objectionable form, and assured us there was much to be said in its favor which had been long forgotten. Certain therapeutic modifications, certain wholly new resources, obtained through external and also through hypodermic exhibition, are of great value.

One fact, cautionary, respecting atomizing, and that of the cutaneous surface. "It has been proved by the investigations of Röhrig that finely pulverized, watery solutions of substances are taken up by the skin, while they are not absorbed if simply laid upon it. The experiments made upon this point, which were made with all possible precautions, showed that when watery solutions of the iodide or ferrocyanide of potash, for example, were applied to the skin in a finely divided condition one or the other of the drugs appeared in the urine. Animals could also be stupefied or brought into a paralytic condition by solutions of morphia or woorara exhibited in the same manner. This proves that the act of atomizing introduces substances into the body much more readily and in larger quantities than simple contact. Therefore the belief is fully justified that a very large portion of carbolic acid, employed in the form of spray, is absorbed by the skin or its sweat glands."[3] Such poisoning would be especially liable to obtain with children, who "naturally possess a much more limited power of resistance, since the surface of the skin occupied by the spray is much larger, in proportion to the whole surface of the body, than in adults, and, therefore, *cet. par.*, much more carbolic acid is taken into the system."

As respects modifications in medicinal action through rectal insertion there is need of farther research. We have at least corrected certain of the errors in vogue not many years ago. It has been proved that oils may be absorbed from this cavity, although this was, not long since, almost universally denied. We have repudiated the former false ratio which determined that the dose of opium, *per rectum*, should be threefold that *per os*. It may well be that children have been killed *secundum artem* by obedience to this rash tenet. Certain authorities, and Briquet prominently, assert of quinia that the dose by the rectum should be relatively small, as the activity of the remedy is relatively greater thus administered.

Space remains but for a remark concerning posologic modification, the contrast, to wit, always to be observed between the physiological and the toxic impression of any powerful remedy. This suggests allusion to the not infrequent charge, brought by the ignorant or prejudiced against physicians that they prescribe poisons for their patients; such triflers as amuse themselves with the inert inanities of homœopathy escaping this condemnation, and to them, in the present mood of the community, "it makes for righteousness." For although prepossession may expect some virtue from "*arsenicum*" or "*mercurius*" yet a very small modicum of common sense is prompt to declare that they can do no harm.

Now, gentlemen, it should be understood and insisted upon that we never prescribe poisons. We use morphia, strychnia, atropia as occasion calls, but we do not exhibit them in poisonous dose; they do not exert a poisonous action; they are not poisonous agents in our hands. There is as much difference — nay, there is more — in the operation of aconite as a

[1] Lewin.
[2] Gubler.
[3] Lewin.

remedy and aconite as a poison as there is in the toxic operation of aconite and digitalis, or the toxic operation of opium and nux vomica, of arsenic and mercury.

RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M. D.

DISEASES OF THE EAR IN TYPHOID FEVER.

BEZOLD[1] has made a clinical and pathological study of the aural complications of ileo-typhus, which is of great value from the large number of cases and from the many dissections. He distinguishes, as Schwartze has already done, three forms of ear disease as occurring in the course of typhoid fever: —

(1.) Deafness without symptoms of inflammation, and without objective appearances on the drum-membrane, and in the middle ear, which appears to be due to central changes.

(2.) Closure of the Eustachian tube, with the appearances of consecutive retraction of the drum-membrane.

(3.) Purulent inflammation of the middle ear (*a*) without rupture of the drum-membrane (*b*) with rupture of the drum-membrane and otorrhœa, otitis media purulenta acuta.

The first, so-called nervous deafness, is characterized exclusively by subjective symptoms, a variable deafness of moderate degree, and subjective buzzing. That such cases sometimes produce permanent impairment of the hearing is shown by a case which was carefully watched from beginning to end, and which never showed the slightest objective appearance of inflammation or retraction of the drum-membrane, and which was not accompanied by any severe pharyngeal catarrh.

Wunderlich, Griesinger, Murchison, and Liebermeister consider the ringing and buzzing partly symptoms of the prodromous period, partly of the beginning of the disease itself, but all agree that the deafness comes on only when it is evident that the general sensorium is affected. C. E. E. Hoffman says that these disturbances of hearing without objective symptoms, in severe cases of typhoid, appear very early in the disease, and often quite suddenly.

P. C. A. Louis,[2] gives the following figures, which are of interest in showing the proportions of patients with ear symptoms: Of thirty fatal cases eleven complained of buzzing, twenty of deafness, and two of pain in the ears. The buzzing began in four of these with the very first symptoms, in the others at various times, but nearer the beginning than the end of the disease. Of forty-five patients who were very ill but finally recovered nineteen had buzzing, thirty-three deafness, seven pain, and four discharge. The suppuration only appeared in the later stages of the disease, never before the twenty-second day. Of twenty-four lighter cases six had buzzing, five deafness, three pain, and one a purulent discharge, which began on the fourteenth day of the disease.

From his own observations Bezold agrees with these writers that subjective noises and a diminution of hearing, without objective appearances, belong to the earlier symptoms of abdominal typhus, and are of practical value for a differential diagnosis from many other acute general diseases. No statistics are given of the frequency of this form of ear affection.

Of the other two forms of ear disease, the catarrhal and purulent inflammations of the tympanum, fifty cases were found in 1243 typhoid cases examined between 1876 and 1880. Of these fifty cases but two, however, were of the simple catarrhal variety, while forty-eight were purulent inflammations of the tympanum, and Bezold gives the conclusion that in typhoid fever acute inflammations of the Eustachian tube are not more common than they are in healthy adults. The small number of cases placed under this second, catarrhal, division will be a surprise to those who have examined many typhoidal patients, but the explanation is found in the fact that Bezold classifies under this division distinct and undoubted tubal catarrh only, while cases of catarrhal inflammation of the tympanum proper, as they used to be called, are by him classified as acute inflammations of the tympanum, according to the recent nomenclature of Politzer.

Of 1243 typhoid cases examined, forty-eight, or four per cent., showed acute inflammation of the middle ear. Of these forty-one had perforation of the drum-membrane and otorrhœa, or 3.3 per cent. of all the cases examined.

While the nervous affections of the ear are found in the beginning or even in the prodromous period of the disease, the inflammations of the tympanum are first seen towards the end of the general disease, usually between the twenty-fifth and thirty-fifth day. In Bezold's cases only three began before the twentieth day, namely, on the ninth, the thirteenth, and the seventeenth day.

The acute inflammation is either slight, without rupture of the drum-membrane, or more severe with perforation of the membrane. In the former case, usually towards the end of the disease, moderate intermittent pain is complained of in the ear, with a little deafness, which latter may gradually increase to a marked degree. A diffuse injection is seen on the drum-membrane, most marked in the posterior upper quadrant, while the rest of the membrane appears opaque and grayish-white. Without the inflammation going on to any higher development this condition may remain for several weeks, and then, by a retrograde process, return to the normal. The appearances here are those of acute middle-ear catarrh, but a dissection of such a case, by Bezold, proved that the secretion, even in the beginning, was purulent.

The more severe variety was observed in thirty-six cases unilaterally, and in five bilaterally. The time of its appearance averaged between the fourth and fifth week. The appearances and symptoms are those of a more pronounced inflammation; the injection and swelling are more intense; buzzing, sometimes pulsating, is often present; the pain is more severe, and, even in the beginning of the disease, there is a decided sensitiveness to pressure over the mastoid process; fever is generally present, and the temperature raised until perforation of the membrane occurs. From the late period of the disease at which the ear trouble comes on Bezold considers, and with justice, that the increased fever is due to the inflammatory ear disease. Often in one and usually within a few days rupture of the membrana tympani occurs, and an abundant serous, or bloody serous, discharge, with which a few masses of pus are mixed, appears. As the result of the discharge maceration and a hyper-production of epi-

[1] Bezold, Ueber die Erkrankungen des Gehörorgans bei Ileotyphus. Archiv für Ohrenheilkunde, vol. xxi., p. 1.
[2] Das Typhöse Fieber, etc., Leipzig, 1842.

dermis takes place in the meatus, obscuring the view. The perforation is almost always located in the posterior half of the membrane. The secretion, in a few days, becomes muco-purulent, and may so remain for weeks and even months in spite of careful antiseptic treatment. Succulent polypoid growths may develop from the mucous membrane, and in several cases Bezold has seen white spots on the inflamed mucous membrane which suggested diphtheritic deposits. Very marked sensitiveness of the mastoid was found nineteen times in the forty-one cases, and in eleven of these this sensitiveness was found at the very beginning of the ear disease, while in eight it appeared from the second to the twelfth day, due, Bezold thinks, to inflammation of the mastoid cells as well as the mastoid antrum. In five of these nineteen cases there was external periostitis. The temperature in the milder cases often becomes normal after rupture of the drum-membrane, but in the severer cases it may show the great and irregular variations characteristic of pyæmia.

The extreme deafness sometimes met with in typhoidal suppuration of the tympanum is, Bezold says, greater than he has ever seen with spontaneous tympanic inflammation. In one case the deafness for speech was total for nineteen days, but at the same time bone-conduction for the tuning-fork was good.

The suppuration of the tympanic mucous membrane Bezold regards "as the natural healing process of the acute inflammation produced by a local infection. He regards it as the normal reaction of the mucous membrane to the inflammatory irritation which has reached that spot, and that it leads directly to healing in that thereby the infecting agent is eliminated from the tympanum." With this belief he limits therapeutic measures to preventing new infection and the decomposition of the secretion by using antiseptics, of which he prefers boracic acid, and by washing out the middle ear, preferably through the Eustachian catheter, as advised by Politzer.

The cause of the ear diseases in typhoid has been variously given. Griesinger goes so far as to refer even the purely nervous disturbances which occur in the beginning of the fever to catarrh of the Eustachian tube and tympanum, while Hoffmann and Troeltsch would only refer the secretory inflammations of the tympanum to an extension of inflammation upwards from the pharynx. Schwartze regards the tympanic inflammation as a purulent inflammation of the tympanic mucous membrane independent of closure of the Eustachian tube or pharyngeal disease. The question whether the specific typhoid germs find in the middle ear a favorable seat for their development, and act here as exciters of the inflammation, Bezold answers in the negative because of the marked absence of lymphatic tissue, and especially because the purulent tympanic inflammations, as has been said, only show themselves in the later stages of the general disease when it is fair to assume that the specific germs are already eliminated from the system.

The middle ear process may be the result of naso-pharyngeal disease in two ways, either by long-continued closure of the tube or by a direct extension of the catarrhal or diphtheritic disease of the pharynx, per continuitatem, into the tympanum. That a closure of the tube is the cause Bezold denies, for, during a year, he examined every typhoid patient frequently, and in no one of them could he find the recent retraction of the drum-membrane characteristic of closure of the tube, and yet many of these cases afterwards developed purulent tympanic inflammations. A direct extension of the inflammation from the pharynx, he thinks, may explain the lighter cases of ear disease, but wholly fails to explain the severe cases, for these begin quite suddenly, and are accompanied from the beginning by involvement of the mastoid cells. Dissections also prove that very often the inflammation is limited to the tympanum, and does not extend into the Eustachian tube, a condition which would not exist if the disease had extended along the tube from below. The secretion in the tympanum, at least in the majority of cases, is purulent from the very beginning both in the perforative and non-perforative forms.

Besides extension from the pharynx for the milder cases Bezold suggests two other causes of the tympanic inflammation, the entrance of septic material from decomposition of the naso-pharyngeal secretion, and possibly of small particles of food, and, secondly, emboli in the vessels of the tympanic mucous membrane from endocarditis and thrombus of the left side of the heart, or from masses of suppuration in the periphery. The former has not been proven, the latter was found in a case examined by Bezold in a branch of the arteria stylo-mastoidea, and although in this case the heart was not examined infarcts in the kidneys showed the existence of embolic material in the left heart. Trautmann also has found small emboli in the tympanic mucous membrane.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M. D., SECRETARY.

JUNE 9, 1884. The President, DR. CHARLES D. HOMANS, in the chair.

DR. R. M. HODGES read a paper entitled

DIETETIC DELUSIONS; THEIR DELETERIOUS EFFECTS AND THEIR RECTIFICATION.[1]

DR. FRANCIS MINOT wished to make one or two suggestions called out by the paper. The temperature of food is often too high. Particularly is this the case with potatoes, and with tea and coffee, which are not uncommonly used when hot enough to interfere with digestion. Among the foods at once nutritious and palatable he gave a high rank to fresh condensed milk, which differs from the canned milk that is imported, and somewhat resembles the so-called boiled milk of the French cafés. This last is not really boiled, but is allowed to simmer and evaporate all night over the fire, preparatory to being served with coffee in the morning. The speaker had met with the difficulty described by Dr. Hodges in getting some women to eat. He believed that there are cases that can be successfully treated only by refusing to make another visit unless the prescribed quantity of food is taken. This course will probably succeed provided the patient has confidence in her attendant.

DR. R. T. EDES said that he thought there has already been some little reaction from the acceptance of Weir Mitchell's teaching about forced feeding in bed.

[1] See page 25 of this number of the JOURNAL.

Some cases do well with a less active treatment. He did not mean by this, however, to imply that the reader was accepting that treatment in full. He thought it a mistake to regard too carefully the chemical composition of food. To get the best results from food it must be palatable, and he was somewhat surprised that Dr. Hodges had not had a good word for mince pie. The speaker would hardly call malt extract a tonic, but rather considered it a food, although it does have diastatic qualities, and the question of the predigestion of food is sometimes important. He took the opportunity to speak of preparing milk by slowly adding dilute hydrochloric acid to it drop by drop while warm, stirring at the time. By this means the curd is broken up and becomes more digestible, while the taste is more agreeable to some people than other predigested foods.

DR. G. K. SABINE thought that the subject is very important, often more so than questions of drugs or exercise or of hygienic surroundings. Even bad air can be borne for a time by those who are well fed. The importance of good food is well seen in the country, where it is astonishing how poorly farmers live, and how underfeeding and overwork tell on the health of the women. It had occurred to the speaker that the hours of meals may have an influence on the drinking habit. A dinner at noon followed by a light supper leaves one empty and uncomfortable at night. A glass of whiskey will often relieve this feeling, while had a full meal been eaten in the evening the discomfort would probably not have existed. The value of eggs mentioned in the paper might perhaps be overestimated, as now and then they upset the stomach.

DR. H. C. HAVEN deprecated a too free use of meat in the dietary of *childhood*, and up to the seventh year would exclude it entirely, provided that the dietary was intelligently constructed, so as to furnish in other forms the proper amount of albuminoids. He believed that the old rule of meat once a day for children was much better than twice or thrice a day. In childhood, especially during the earlier years, when developmental changes are still most active, there is a relatively greater susceptibility to stimulants to the nervous system. Reflex action from the slightest irritants is a well-known phenomenon of infancy and childhood; and the salts or extractive matters in meat, which give to their solutions the stimulating qualities they possess, should be used with great caution, or, if nitrogen-containing food is otherwise furnished, dispensed with.

Dr. Haven believed this to be especially important in the cases of children who either had, or might be supposed to have, inherited the neurotic disposition. He had seen the "nervousness" of children, manifested by the symptoms of irritability, night terrors, or talking in the sleep habit, chorea, etc., disappear after exclusion of meat from the dietary.

If Americans *are* more "nervous" than the people of other nations, it behooves us to be especially careful of American children during the period of development of the nervous system.

He spoke of statistics quoted by Dr. Cannan in an article entitled Milk Diet in Childhood.[1] In an institution in New York, where for the past twenty-five years meat has been excluded from the dietary, even in the form of soup, the average number of inmates between three and eight years of age has been 110. In only nine of the twenty-five years has there any death occurred among these children. In these nine years the total number of deaths has been only twenty, or less than two per cent. of the inmates. The children are kept from three to twelve years, and are therefore under observation for a considerable time. These figures are certainly worthy of careful consideration.

[1] New York Medical Journal, vol. xxxix., No. 13.

DR. J. J. PUTNAM agreed with Dr. Haven, and stated that epileptics often do better without meat.

DR. HODGES said that while individuals may do well without it, yet that it is not the rule.

DR. J. C. WARREN referred to a recent book by Professor Erbstein on the Banting process, which shows that absolute abstinence from fat is needless, patients losing two or three pounds in a week while taking butter freely, but having their starchy food and sugar reduced. There is a limit to this, however, and *milk* is not allowed by Erbstein, possibly on account of its sugar.

DR. HODGES, in reply to Dr. J. J. Putnam, said that for fat anæmics he always tried exercise.

DR. MINOT thought that they were improved by forced exercise, and related some cases in support of his statement.

DR. J. B. AYER said that while it is true that milk disagrees with some people, yet by beginning with somewhat small quantities, and adding lime water or cream, the difficulty disappears.

DR. C. P. PUTNAM agreed with Dr. Haven that children ought not to have more than a limited quantity of meat. In them it produces dyspepsia. He has observed that when they get much of it at an early age the fæces assume a putrid odor different from that of the milk-fed child or the meat-eating adult, and he thinks this also should be taken as an indication that with them meat is not easily disposed of in the economy.

In adults, he thought the quantity of meat eaten should vary with the amount of exercise taken, and he spoke of constipation caused by milk. He also said that while sausages form, in some countries, a staple article of diet, yet that the Germans eat so much bread at the same time that that is with them the more important article of the two.

DR. SABINE said that the German sausages are made of one half beef and one half pork, less highly spiced than ours, and are boiled instead of fried. They can be bought in this city.

DR. BUCKINGHAM said that he, as well as Dr. Sabine, had met with people who could not eat eggs, and so many of them as to surprise him, considering the common opinion on the subject. It was fair to say, however, that he had not made the same distinction between cooked eggs and raw eggs that is made by Dr. Hodges. He agreed with Dr. Haven that up to five, six, or seven years milk should form the principal part of children's diet. It was his impression that children otherwise fed were more likely to have digestive disturbances. Children always like milk if they are encouraged to do so, or acquire a distaste if too early weaned from it, and this matter of liking may play an important part in disease even after childhood is passed.

— "Death owing to visitation of Providence under suspicious circumstances" is reported as a coroner's verdict in Munster.

MEDICAL ASSOCIATION OF THE COUNTY OF NEW YORK.

AT a meeting of the Association held June 16th, DR. J. LEWIS SMITH read a paper on

THE SUMMER DIARRHŒA OF CHILDREN.

Having remarked that it was gratifying to know that of late years the enormous mortality from this affection in large cities had been somewhat controlled in consequence of the measures adopted for this purpose by boards of health, he said that it still continued the great scourge of the community during the heated term, and proceeded to quote a number of statistics showing this, which were taken from the records of vital statistics of the city of New York.

The ætiology, he went on to say, depended on two principal factors, the one atmospheric and the other dietetic. In regard to the first, the prevalence of the affection corresponded closely with the increase of atmospheric heat, commencing in the month of May, and reaching its maximum during July and August. The fact that the mortality from it was greater in October (when the average temperature was lower) than in May, was explained by the circumstance that the deaths from it were among children who had contracted the disease in the summer and whose constitutions had finally yielded to its debilitating effects. Although the summer season was responsible for the wide-spread mortality from it, it was not easy to ascertain the precise elements to which this was due, since much the same degree of heat prevailed in the rural districts as in cities. It seemed altogether probable, however, that noxious effluvia constituted or contained the morbific agent or agents; and in support of this hypothesis Dr. Smith related a number of facts which had come under his personal observation. Murchison found that twenty out of twenty-five boys were attacked with diarrhœa which was excited by the emanations from an old drain near the school which they attended, and the purgative effect of impure air was well illustrated by the fact that medical students previously in good health were not infrequently attacked with diarrhœa as the result of working in the dissecting room.

In all large cities solid impurities were very numerous in the atmosphere, and this accounted in great part for the hazy cloud that could usually be seen hanging over cities and towns. Whether organic impurities giving rise to diarrhœa were organized or not was not yet definitely determined. A bacillus of cholera infantum, it was true, had been discovered; but whether it was a causative agent, or merely an incidental concomitant, was still an open question. He then referred to certain gases and gaseous combinations liable to be found in the air, which were supposed to have a distinct effect upon the bowels, and mentioned the sulphates as being among the most active chemical compounds in this respect. In the present state of our knowledge, we had to be content with saying that impure air was one of the great causes of infantile diarrhœa, without being able to state precisely in what manner it produced this effect.

This led, however, to the presumption that, in addition to heat, infectious germs constituted an important element in the ætiology; and the conditions existing in the summer in cities were certainly favorable to the development of low organisms. He then proceeded to describe the various circumstances characterizing the life in the crowded tenement-houses in New York, which were so productive of disease and death among the infantile population, and especially during the heated term.

Going on to speak of the dietetic factor in the causation of infantile diarrhœa, he remarked that in the large cities children under eight months of age, if bottle-fed, were almost invariably attacked by it in summer. In institutions it was a well-known fact that every bottle-fed infant under four months, and often under six months even, died at this season. But in addition to being bottle-fed the infants in the tenement-houses were very frequently allowed to have various kinds of fruit as well as the ordinary table fare of adults, so that it was no wonder that diarrhœa was prevalent among them.

Occasionally it happened that from continued ill health the milk of the mother became deteriorated, and no longer agreed with the infant, and although under ordinary circumstances breast-milk was incomparably the best diet, it thus became necessary to put it upon some other food, provided it was impossible to secure a wet-nurse for it. Cow's milk was, on the whole, the best substitute for mother's milk, but the milk that was obtainable in New York, especially by the poor, was often of such bad quality that it was exceedingly apt to disagree with the child. In New York improper feeding was quite sufficient to produce diarrhœa without the influence of atmospheric conditions, but with the two causes combined it was not to be wondered at that the infant mortality was so large during the summer months.

Having spoken of the better care now taken of foundlings, as compared with the former condition of affairs, when this class were intrusted to the care of pauper women in the almshouse on Blackwell's Island, and it was a very rare occurrence for one of these little waifs to reach an age of more than two months, Dr. Smith spoke of the supposed influence of dentition in the ætiology of summer diarrhœa, and expressed the opinion that this had nothing whatever to do with its causation. This, he thought, was proved by the fact that infants under three or four months (or before reaching the age of dentition) were even more liable to the affection than older ones in whom the process was taking place.

He passed over the portion of the paper describing the symptoms, except so far as to mention that in the great majority of cases the disease began very gradually, so that mothers were apt to neglect attending to it until the pathological process had reached a considerably advanced stage. There were, however, certain sudden and severe cases which were properly designated as cholera infantum, or choleriform diarrhœa, and which bore a striking resemblance to true Asiatic cholera. In no other disease except this was such a marked change in the appearance of the patient so quickly produced. In referring to the anatomical characters of the disease he stated his firm conviction that it was an inflammatory affection from the first, an opinion which was based on his own personal observations in a large number of autopsies. It was really an ileo-colitis, as it was in the ileum and colon that the lesions were principally, although not exclusively, found.

On account of the length of the paper he was obliged to omit the portions of it relating to diagnosis, prognosis, and preventive measures, and pass on to a

consideration of the curative treatment, which, he said, comprised four principal points. These were: (1) to give the best available food, (2) to supply the child with pure air, (3) to aid digestion, and (4) to use appropriate medicinal agents to check the diarrhœa. If the mother was not able to nurse her child and a wet-nurse could not be provided, it became the physician's duty to recommend some substitute for breast-milk. Cow's milk was universally conceded to be the best substitute for this; but, unfortunately, cow's milk in cities was extremely apt to be defective, and so likely itself to be one of the causes of diarrhœa. How to modify cow's milk so as to make it resemble human milk as closely as possible was one of the most valuable suggestions that emanated from an important congress of well-known German physicians interested in children's diseases, which was held in 1881, and this suggestion was, that peptonizing it had the effect of rendering the casein, which was the chief source of indigestion in the milk, readily digestible. In peptonized cow's milk it was found that the casein was in delicates flakes, instead of the hard masses in which it ordinarily existed in this fluid, and it was recommended that the process of peptonizing should be suspended as soon as the milk began to assume at all a bitter taste. In order to have the milk in the best possible condition for the child's use it was necessary to peptonize it in small quantities as required, and Dr. Smith then proceeded to describe the way in which it was now prepared at the New York Foundling Asylum, an institution with which he was connected: five grains of extractum pancreatis and ten grains of sodium bicarbonate being added to one gill of warm water and one pint of cow's milk. The liquid should be tasted frequently during the course of preparation, and as soon as it became in the slightest degree bitter the peptonizing should be arrested. This could be done either by heating the milk or by placing it on ice, and the latter he considered preferable, as this only suspended the process (which it was desirable should be renewed in the child's stomach), while the application of sufficient heat to arrest it had the effect of destroying the ferment. This peptonized milk was then to be further diluted, according to the age of the infant for whom it was intended.

Before the process of peptonizing was resorted to barley flour was frequently added to infant's food for the purpose of separating the cakes of casein found in cow's milk into smaller subdivisions, and this was probably the next best substitute. Liebig had been the pioneer in devising a physiological substitute for mother's milk, and by his process of converting starchy matters into grape sugar had conferred a substantial benefit. Having referred to the use of wheat flour and of malt extract in the preparation of the diet of infants and young children, he spoke in conclusion of several of the artificial foods now in use, omitting the part of the paper which was devoted to the medicinal treatment of summer diarrhœa.

DR. H. A. POOLER, of Goshen, N. Y., and PROFESSOR LEEDS, of the Stevens Institute, Hoboken, had been especially invited to participate in the discussion of Dr. Smith's paper. The former devoted his remarks principally to a consideration of the evils resulting from the adulteration of milk and its transportation from long distances, and to practical suggestions for securing a sufficient supply of pure milk produced within a comparatively short distance from the city. Through the efficient coöperation of the State Boards of Health of New York and New Jersey with the New York City Board of Health, however, much progress, he said, had already been made in the way of reform; so that within the last year or two the prevention of adulteration had reduced the supply of the city by about one hundred thousand quarts, and the milk was consequently of a much better quality. The result of this improvement, he thought, was shown in the fact that the mortality from diarrhœa was 3664 less in 1883 than in 1882. He also spoke of the importance of giving milk to young infants at the temperature of milk from the mother's breast, and in its preparation to add a sufficient amount of cream, since by diluting it with water in order to reduce the casein the quantity of fat was also proportionately reduced.

PROFESSOR LEEDS spoke first of the impurities in the atmosphere as shown by the analysis of rain-water, which in falling became impregnated with them. Thus he had found rain-water collected in Hoboken to be very much more impure than any of the water taken from the head-waters of a number of streams in Eastern Pennsylvania, which he had analyzed for the purpose of advising in the selection of a new water supply for the city of Philadelphia. It had been a matter of surprise to him that the medical profession had not provided itself with more definite information as regards the purity and impurity of the atmosphere under different conditions, and he thought that it would be an excellent thing if the Signal Service Bureau of the government would supplement its meteorological reports with reports of the proportion of oxygen, organic matters, etc., in the atmosphere.

As regards the matter of infant feeding, he was of the opinion that we were much nearer a practical solution of this important problem than had been deemed possible ten years ago. This had been indicated by Dr. Smith, who had rightly attributed great importance to the results of the conference of German physicians to which he had referred. All authorities were agreed that cow's milk was, on the whole, the best substitute for mother's milk, and the practical point was, therefore, to determine what was the best way of preparing it for the infant's use. We did not know at the present time, he said, precisely what the elements were which made up the so-called casein of cow's milk, it having been determined simply that this substance was coagulable by acids. We did know, however, that there was a difference in the percentage and in the character of the albuminoids and the fats found in cow's milk and in human milk, while the milk-sugar was the same in both. As Dr. Smith had mentioned, it had been demonstrated that the casein of cow's milk could be rendered similar to that of human milk by peptonizing it. As to the fat in human milk, it was not all appropriated, since about twelve per cent. of it, as a rule, could be found undigested in the fæces of the infant. It was, therefore, supplied in excess by nature. In cow's milk the average quantity of albuminoids was twice that found in human milk.

In the preparation of a substitute for the latter he would suggest that to a pint of good cow's milk one pint of water should be added. If to this mixture two ounces of cream and four hundred grains of milk-sugar were added the percentage constitution would approximate very closely that of mother's milk. If, furthermore, the insoluble casein of the cow's milk

were converted into soluble peptones by the action of extractum pancreatis, as recommended by Dr. Smith, it seemed to him that we should have a reliable substitute for the natural food of the infant, which would probably give satisfactory results if practically tested. The recent advances made in regard to this subject would, in the near future, he thought, work untold good in the reduction of the now enormous mortality among infants and young children.

At the conclusion of Professor Leeds' remarks DR. WILLIAM H. WELCH presented the specimens from a case of

PRIMARY TUBERCULOSIS OF THE GENITO-URINARY APPARATUS.

It seemed to begin in the left epididymis, which was enlarged, mostly in the globus major, the distended tubules being filled with cheesy matter. The left testicle was involved, as well as the corresponding *vas deferens*, and the caseous substance mentioned could be traced up to the situation of the seminal vesicles and prostate gland. In that position, behind the neck of the bladder, a tuberculous abscess having a cavity of the size of an orange was found, and this had completely destroyed the seminal vesicles, as well as the central portion of the prostate gland, while at one point it opened into the prostatic portion of the urethra. Miliary tubercles were found throughout the whole length of the urethra, as well as in the bladder. The left ureter was dilated and filled with the same cheesy matter as other portions of the genito-urinary tract, and the left kidney was also the seat of extensive tubercular disease. Dr. Welch supplemented his presentation of the specimens with some remarks on primary tuberculosis of the genito-urinary apparatus in general.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

JANUARY 12, 1884.

DR. T. M. ROTCH, present by invitation, reported a case of Malformation of the Vagina closely simulating in its external appearances exstrophy of the bladder.

CASES OF PREGNANCY COMPLICATED WITH FIBROID TUMOR OF THE UTERUS.

DR. W. L. RICHARDSON reported two cases of Pregnancy Complicated with Fibroid Tumor of the Uterus.

CASE I. The patient was a stout married woman, twenty-seven years of age, whose general health had always been good: the catamenia had usually been regular and not profuse, lasting four to five days; but for a few months preceding pregnancy the flow had been rather light colored.

There was nothing especial noticed during pregnancy except that nausea was much more marked in the later than in the earlier months. There was no œdema. The urine contained a slight trace of albumen; but no casts were discovered.

The patient entered the Boston Lying-in Hospital for her first confinement.

The os dilated very slowly under chloral and ether.

After sixty hours the breech, the presenting part, began to descend, and in two hours it reached the perinæum, where it remained. After ten hours, as no advance was making, the fœtal heart beating 200 per minute, and the woman becoming much exhausted, the patient was etherized.

Examination showed that one foot was pressing against the symphysis pubis, preventing the advance: the foot was pressed up with difficulty. The conjugate diameter was found to be narrowed. The fillet was now tried, but could not be passed: finally a tape was passed around the thigh by means of a hard rubber catheter. The fillet was tied to the tape, and thus was drawn around the groin.

The body was extracted without much difficulty; but forceps were necessary for the aftercoming head: the child was still-born.

There was no hæmorrhage. The placenta was retained and had to be removed by the hand passed into the uterus. The patient was given a douche every six hours, and ergot twenty minims every three hours, with enough morphia to make her comfortable.

On the following day her temperature rose to 102° F., she was very nervous and excited, and complained of great pain in the abdomen, which was tympanitic and tender on pressure.

The catheter was necessary. The inner surface of the perinæum was black: iodoform was applied.

On the fourth day large sloughs were discovered which included most of the vaginal surface. She was given a douche every six hours followed by an iodoform spray. While the nurse was absent from the room the patient got out of bed.

On the sixth day she slept a great deal and when awake seemed in a dazed condition: she talked much in her sleep. When asked a question she repeated the answer several times. Bromide and chloral did not quiet her. The pulse had become much smaller, the lochia scanty and very foul: vaginal douche with iodoform every four hours.

On the seventh day the tongue was dry brown and cracked: the fundus of the uterus was still at the umbilicus: the vaginal walls were a mass of sloughs. The patient was taking several pints of nourishment daily: had an attack of urticaria.

On the ninth day, after several large dejections, she seemed somewhat brighter, but her mind was wandering and she was very restless and talkative.

The urine was dark brown, acid, specific gravity 1017 to 1021; indican increased, urophæin and urea normal, uric acid much increased; very slight trace of albumen. The sediment contained much uric acid, and an occasional blood globule and hyaline cast, the urine resembling that of renal hyperæmia of carbolic-acid poisoning. The iodoform was at once omitted, but was soon resumed though very sparingly.

For the next week the patient's general condition was much improved. The temperature and pulse both fell nearly to normal, she slept better, and was more rational. The vaginal discharge was very offensive; but the sloughs had nearly disappeared.

On the seventeenth day it was noticed that the vaginal discharges came away in gushes, were exceedingly foul, of a slaty color, and purulent in character: the fundus of the uterus was just below the umbilicus. The patient now became more restless and delirious, and her general condition was much worse, the temperature and pulse rising. Abdominal tenderness had about disappeared. Iron and malt were given.

On the twenty-second day she had two decided chills.

On the twenty-fifth, after much pain in back and abdomen, a large foul mass was discharged from the vagina, which Dr. Whitney pronounced a sloughing fibro-myoma.

For the next three days her condition remained about the same, the temperature rising to 103.5° F., and the pulse to 125: the vaginal discharge was still intermittent and very abundant, foul and purulent.

After these three days her condition improved decidedly: she became much less delirious: the temperature and pulse both fell; but there was a marked morning rise with an evening remission. The discharge had nearly ceased.

On the seventh day after the discharge of the tumor temperature and pulse were nearly normal. She was much more rational, but still made frequent attempts to get out of bed.

On the twelfth day after the discharge of the tumor, the thirty-sixth day after her delivery, she had practically recovered: her mind was clear, the vaginal discharge had ceased, the walls of the vagina were healthy, and the patient was sitting up.

Examination forty-three days after delivery, and seventeen days after the expulsion of the tumor: Uterus somewhat fixed; position, slight anteflexion; cervix, stellate laceration; depth, three and three fourths inches. Vaginal walls appeared healthy, with the exception of a few depressions and cicatrices resulting from the loss of tissue.

CASE II. In the service of Dr. W. E. Boardman. The patient, thirty-nine years of age, entered the Lying-in Hospital for her eighth confinement in the seventh and a half month of her pregnancy, having been advised outside to have labor induced because of a fibroid tumor of the uterus.

Examination under ether showed an interstitial tumor the size of a child's head in the anterior uterine wall.

On consultation it was decided to defer the operation one month in the interest of the child. On the following day, however, labor began, and in seventeen hours she was delivered of a still-born child weighing two and one quarter pounds: the presentation was half breech. The membranes and placenta came away without difficulty. She was given a vaginal douche every morning and evening, and a poultice over the abdomen.

The temperature rose the next evening to 103° F., and with the exception of one day remained above 100° F. throughout.

The patient was given supporting treatment, with small doses of ergot and iron frequently repeated, and enough morphia to make her comfortable.

By the fifth day the lochia had become very offensive, and there was much pain in the abdomen. The evening temperature was, however, but 101.4° F., and the pulse 90.

On the sixth day the tumor presented at the os, partly protruding.

On the eighth day the tumor was visible at the vulva; it was sloughing, and very offensive; small bits were readily detached.

The pulse throughout had remained below 100, but for the past three days the temperature had been gradually rising. The same treatment was continued.

On the tenth day, Dr. Boardman being absent from the city, the tumor was thoroughly removed by Dr. Richardson, and the uterine cavity washed out with dilute carbolic acid. That night the pulse ran up to 120, but the temperature fell somewhat.

Abundant food and stimulants were given, but on the following day peritonitis supervened, the patient collapsed, and at the end of six hours died. There was no autopsy. During the whole course of her sickness there had been no well-marked symptoms of septic absorption. She was nervous and worried about her condition from the first, slept and eat poorly, and seemed weak and exhausted.

DR. O. W. DOE also reported briefly a case of fibroid of the uterus complicating pregnancy to illustrate how little injurious effect this condition may exert at the time of labor in contrast with the serious results in the two cases reported by Dr. Richardson.

Mrs. P., thirty-nine years of age, first noticed, in February, 1878, an enlargement in the right iliac region about the size of a small orange. It was dull on percussion, and there was no sense of fluctuation. This continued to increase slowly in size until, in the latter part of 1881, the enlargement extended five inches above the level of the umbilicus on the right side.

The catamenia last appeared on August 23, 1881, having been always regular previously. Three months later she sought medical advice in London as to the cause of this sudden cessation, and was assured that it was only the beginning of the menopause. A month later, still feeling uncertain as to her condition, she returned to Boston, and consulted her family physician, Dr. J. M. Smith, of Barnstable, who found undeniable evidences of pregnancy, and referred her to Dr. W. H. Baker, of Boston, to whom I am indebted for the case.

She came under my care early in March. At that time the abdomen was very much distended and tense, the tumor apparently occupying that portion of the abdomen to the right and four inches above the level of the umbilicus. Respiration was very much impeded when lying down, so that in April she was obliged to rest in a semi-erect position, and suffered very much from sharp lancinating pains throughout the abdomen. These became so wearing upon her, and the dyspnœa so troublesome, that I decided to induce labor at the end of the eighth month.

The membranes were easily ruptured at 9.10 A. M. on April 23, 1882, the cervix being quite soft and yielding. Pains came on one hour later, and the child was born at 4.15 P. M., a healthy boy, weighing six pounds. One peculiarity of the labor was that after every vaginal examination the pains would recur frequently and be very strong in character, continuing so for nearly an hour, when they would become weak. There was no undue hæmorrhage, ergot having been given a short time before the expulsion of the child, and the convalescence was uninterrupted, the patient being able to travel sixty miles by rail at the end of four weeks.

After the placenta was removed the fibroid could be easily felt, and was about the size of the head of a ten-pound child; by vaginal examination it was found to extend to, but did not involve, the cervix.

On October 13th following the labor the probe passed eight and a half inches, and the tumor seemed to have diminished slightly in size.

DR. B. CUSHING, present by invitation, read a paper [1] giving the experience of the Ste. Mary's Infant Asylum

[1] See Boston Medical and Surgical Journal, vol. cx., No. 16.

and Lying-in Hospital. The inference which he seemed to draw from a study of the cases was, that however desirable it may be among the rich for the accoucheur to come to the bedside of his patient enveloped in a cloud of carbolic vapor, the poor do very well under pure air, if they are kept clean and do not have too much "doctoring."

DR. RICHARDSON stated that at the Boston Lying-in Hospital about half the admissions had been of single women, among whom the percentage of deaths was considerably in excess of the mortality in the other half.

Recent Literature.

Post-Nasal Catarrh and Diseases of the Nose Causing Deafness. By EDWARD WOAKES, M. D., Senior Aural Surgeon and Lecturer on Diseases of the Ear, London Hospital, Senior Surgeon Hospital for Diseases of the Throat, London. Illustrated with Wood Engravings. Philadelphia: P. Blakiston, Son & Co. 1884.

The same physiological principles which underlie a previous work by the author (Deafness, Giddiness, and Noises in the Head) are brought forward in this volume to explain the catarrhal lesions of the nose and naso-pharynx, of which ear disease is a secondary issue. The results of the author's studies have led him to certain conclusions in regard to the functions of the vaso-motor system, which are at variance with the opinions held by experimental physiologists at the present time. We search in vain through the book to discover the nature of these studies or for proof to substantiate the theories which the author advances. We shall, therefore, simply state what the hypotheses are upon which this work is founded without comment.

Disease of the nose and naso-pharynx, acute or chronic, of whatever kind, the author regards as a neurosis. The specific seat of this neurosis is to be found in the superior cervical ganglia of the sympathetic chain and their afferent and efferent branches. The anatomical elements of these ganglia are in organic communication with their afferent and efferent sympathetic nerves, which have a reflex relationship with one another. The ganglia are not only independent centres, but they are correlative organs as well, by means of which afferent tissue impressions from one direction are reflexly referred to a totally different tract where they take effect upon the blood-vessels, and, by enlarging or contracting their calibre, produce alterations of nutrition or of function in the areas affected by them.

The phenomena of an ordinary cold are explained by vessel dilatation in the parts of least resistance in response to an afferent impression (a chill) reflexly transferred from the respective ganglia of the sympathetic chain to the efferent area in the nose. The causes of the hypertrophic as well as the atrophic forms of catarrh, follicular disease of the pharynx, and pharyngitis sicca are all to be sought in some ganglionic neurosis and consequent vaso-motor deficiency. Why diseases pathologically distinct should have this common origin is accounted for by the assumption, which the author believes to be a fact, namely, "that every distinct histological structure has special corpuscles in the ganglion assigned for the regulation of the blood supplied to it, and with which set of corpuscles the nervi-vasorum of such special structures are severally connected." To show to what length the author's reflex-excito-vaso-motor-sympathetic theories lead him we quote the assertion, to be found on page 64, "that the mismanagement of a quinsy may compel the supervention of a peri- or endocarditis."

Turning from the theoretical to the practical portion of the book we find a good deal that is most useful. The importance of directing therapeutic measures to the nose and its adjacent structures in treating certain forms of ear disease is very properly strongly insisted upon. The external nasal meatus is considered the physiological end of the Eustachian tube. The tube is, therefore, as liable to obstruction from stenosis of the inferior nasal meatus as it is from a similar condition occurring in any part of its length. In the author's experience it is rare for the subjects of nasal polypi to complain of deafness, an exemption which is due to the fact that they seldom intrude into the inferior channel of the nose, which is the true auditory passage. The chapter on The Hygienic Management of the Catarrhally Predisposed is excellent. The description of the methods of examining the fauces, nose, and post-nasal space and the anatomical survey of these parts leave nothing to be desired. It is stated that Sir Andrew Clark was the first in England to draw attention to the post-nasal space and its contents. His contribution appeared in 1864, and in it the statement is made that the normal secretion of the pharyngeal tonsil is competent to convert starch into sugar.

The treatment of the different forms of nasal stenosis causing deafness is carefully considered. Besides mentioning all of the most useful modern operative procedures for removing the hypertrophied mucous membrane covering the turbinated bones, the author details his own method, which he employs in extreme cases. His instruments consist of a pair of thin forceps and a *nasal plough*. The part to be removed is first grasped by the forceps, then the plough, — a kind of gouge, — made to adapt itself to the forceps, is pushed along the nostril, and slices off whatever is to come away. The operator has never experienced any ill effects from the use of this instrument. We have had no experience with it, but we are aware of the hæmorrhage which sometimes follows the removal of this hypertrophied tissue even when done with the écraseur, and when considerable time — one to two hours — has been devoted to the operation. Although we cannot subscribe to all that this work contains we cordially acknowledge its originality. The whole of it is interesting, and a great deal of it of real value.

A Year Book of Therapeutics for 1883. Edited by ROYAL W. AMIDON, M. D. New York: G. P. Putnam's Sons. 250 pages.

This work is made up of short abstracts of articles on therapeutic topics which have appeared in many medical journals during the year 1883.

By far the larger number are taken from foreign journals and comparatively few from American publications. About fifty pages are given to a translation of a paper by Dr. Gaetano Rummo, entitled Experimental Studies on the Physiological Action of Iodoform.

Those who have not had an opportunity to look over the current literature on this subject may find the work of interest.

Clinical Lectures on Mental Diseases. By T. S. CLOUSTON, M. D. Edin., F. R. C. P. E. To which is added an Abstract of the Statutes of the United States and of the several States and Territories relating to the Custody of the Insane. By CHARLES F. FOLSOM, M. D. Philadelphia: Henry C. Lea's Son & Co. 1884.

In this book Dr. Clouston endeavors to treat the subject under consideration from a clinical and practical point of view. The book is, in fact, as will be seen by the title, a collection of lectures of a clinical nature. As is said in the preface, a good clinical lecture will appeal to the facts of disease as seen in actual cases. Direct appeals to the facts of nature make much more impression on students than any amount of elaborate descriptions. From these considerations Dr. Clouston was led to publish these lectures as a text-book for the use of his own students, and he hopes they may be useful to practitioners as well.

Two hundred and sixty cases of mental disease are described and embodied in these lectures, and there being only 550 pages in the book we thus get a case to every two pages. This is viewing the material somewhat as we would a pile of wood with reference to measuring it by the cord, but it gives in one word an idea of the wealth of clinical material made use of. Here are plenty of colors to paint with; can the writer make pictures out of them? Has he the ability, the patience, the discrimination, the accuracy to use them aright? The reader need not long hesitate on this point, for the attention and interest of the veriest tyro will be excited and caught, and held, we will venture to say, quite to the end of the volume.

The cases serve as a solid foundation of facts, which bring into clear relief the points which the writer wishes to emphasize, and we easily catch his meaning, and retain at least an impression of what he desires us to understand for some time afterward.

There are three ways of using cases in a medical book. The first is the general way, which is largely for effect, or for the purpose of showing extraordinary results. The second way is that of detail, in which trivial and unimportant data are mentioned at such length that the salient points are lost sight of, and the reader is wearied, bored, and uninstructed. The third way is the happy mean, in which there is enough of detail to show careful observation, but more particularly a short, definite, concise grouping together of the data which give an illustrative picture of the theory to be elucidated. The latter method Dr. Clouston is evidently master of. He details a case in such a satisfactory manner that it is nearly as good as having the patient in actual flesh and blood stand before us. Further than this he goes however, for his cases and text dovetail into each other so cleverly that both are necessary for a harmonious whole.

Dr. Clouston's book is not and cannot be regarded as a text-book, except in as far as it is a text-book for his students, and this is all that he intended. It is not a *system* of psychology. It is not a history of all that is known on the subject, comprised within a certain number of pages. And we regard it as fortunate that it is not, as in that case the amount of original research which now characterizes it might have been partially wanting. As it now stands it is an able and original contribution to the literature of an obscure and difficult subject founded on the experience and study of an unusually acute and practical observer.

Like other writers on mental diseases, Dr. Clouston gives us a system of classification. It is not German, it is not Swedish, but it is the old system of the English, modified and improved. Though a classification of symptoms and not real diseases, it is as good as can be hoped for at the present time. The states of morbid mental depression and painful feeling are classed under one head. Most cases of melancholia might be called mental pain, or Dr. Clouston would suggest *psychalgia*. This characteristic of pain in melancholia is important and should not be lost sight of, and therefore the name suggested is a good one. Carrying the same idea of nomenclature further, mania is called *psychampsia;* circular insanity, *psychorhythm;* monomania, *mono-psychosis*, etc.

In studying mental diseases it is necessary to bear in mind the general functions of the brain, and to make this clear Dr. Clouston places in a column on one side of several pages many of the normal conditions of the brain, and in a column on the other side the departures from, and modifications of, these conditions which tend to develop insanity. Such a means of comparison as this is very instructive, and graphic enough to adhere to the most logy of intellects.

One of the things that Dr. Clouston does not do, and for which he deserves our profound gratitude, is to give us a definition of insanity. Apparently the lower the ability of the writer on medical psychology, which Dr. Clouston aptly calls "Mind — as it concerns Doctors," the more determined is he to define with the greatest ambiguity that which may be regarded as undefinable. It strikes us as nearer the mark to deal gently, or not at all, with the incomprehensible, preferring rather the better part of shedding our feeble lights on such matters as we may be fairly supposed to understand.

The Abstract of the laws of the United States and the States and Territories, by Dr. C. F. Folsom, of Boston, has been carefully and well done, and is an important addition for the reader in this country to what may be considered as one of the most valuable series of original observations on mental diseases of recent years.

Elements of Modern Chemistry. By ADOLPHE WURTZ, Member of the Institute, etc. Second American Edition. Translated and Edited from the Fifth French Edition by WILLIAM H. GREENE, M. D., etc. With One Hundred and Thirty-two Illustrations. London and Philadelphia: J. B. Lippincott & Co. 1884.

The first American edition of this book was noticed at some length in the JOURNAL of February 12, 1880. We therefore consider it sufficient to state in this place that the book has been carefully revised and considerably enlarged. The most extensive additions are to be found in the organic portion, naturally, as the chief progress during the last few years has been made in this branch of the science. This book is one of the best of the smaller treatises on chemistry.

— The hypodermic use of pilocarpine is recommended for obstinate hiccough. A writer in the *St. Louis Courier of Medicine* describes a case in a man of seventy-three where the use of .03 gramme succeeded after all other attempts had failed. Other favorable results are also quoted.

Medical and Surgical Journal.

THURSDAY, JULY 10, 1884.

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AN ACT RELATING TO MEDICAL EXAMINERS AND CORONERS.

INFLUENCED, doubtless, by the fortunate experience of their Massachusetts neighbors, the legislators of Rhode Island have enacted a law bearing the descriptive title which is given above. Under its provisions the executive of the State has appointed twenty-four "able and discreet men, learned in the science of medicine, to be medical examiners." Of these twenty-four twenty are regular physicians in good standing, and we are assured that, on the whole, the selection of the new officers will be considered judicious, and will give very general satisfaction throughout the State.

The act contains a brief but very significant section repealing all statutes heretofore in force concerning coroners and their inquests, and provides that the present law shall go into full effect on the first day of the present month. The people of Rhode Island are now living, therefore, under the new system of inquests, and it is to be hoped for them and their public morals that the medical examiners will have very infrequent calls to duty.

In one important respect the Rhode Island law departs from the precedent offered in the Massachusetts statute. So far as the medical examiners and their duties are concerned the two statutes are very nearly identical, but in the matter of inquests Rhode Island, it appears, required what Massachusetts dispensed with, namely, the services of coroners. In Massachusetts when a medical examination results in the conclusion that a death was by "violence" the medical examiner reports the case to the justice of the district or municipal court in whose jurisdiction the dead body was found or the death occurred, and this judge holds the inquest and makes record of the material circumstances, issuing, if need be, a warrant for the arrest of suspected parties. But in Rhode Island the established judicial administration was deemed insufficient or unsuited to undertake this work, and "coroners" are to be elected triennially by the town councils for each town to do inquest duty. We see no advantage in this plan of independent inquest officers except the purely theoretical one that the interests of an accused person would, presumably, be a little safer under the decisions of a judge who had not previously heard the testimony at an inquest, and thus had not received a twist in his judgment. Moreover, the name "coroner" has an unfortunate odor sticking to it. If it were necessary to retain the office (bereft, of course, of the coroner's jury) we wish that the Rhode Island wisdom might have devised another title, such as "inquest justice;" even the incomprehensible Scotch name, "procurator fiscal," is preferable to coroner.

But waiving these objections, it gives us unalloyed satisfaction to record that the excellent Massachusetts plan of inquests is making progress, and that the lawmakers are recognizing the fact that a medico-legal investigation has two distinct elements, a medical element and a legal one. Certainly nothing could be more successful than the practical operation of this principle during the past seven years in Massachusetts; we confidently anticipate equally good results wherever the experiment is tried.

It is worthy of mention that the Rhode Island statute goes into effect upon the very day on which the second septennial period of the law begins in our own State. The commissions of those medical examiners who were appointed in June, 1877, and who continued in office during their full term of seven years, having expired, Governor Robinson has recently given an illustration of his conservatism and has paid a compliment to the good judgment of his predecessor, Governor Rice, by reappointing, with but a single exception, all the original medical examiners who were candidates for his favor. In three conspicuous cases the re-appointment was not desired, and these places have been filled very worthily by the choice of regular physicians of excellent reputation. It is greatly to the credit of the entire corps of medical examiners in Massachusetts, that upon a careful canvass of their record and after a clear notice that charges of misconduct, bad habits, and inefficiency would receive proper attention, his Excellency has seen no reason to make changes in the list, except in the one case which was controlled largely by geographical considerations.

We hopefully predict a continuance of the excellent success which has thus far attended the Massachusetts method of investigating violent deaths.

THE TRAVELERS' POCKET PHARMACY.

A CONTEMPORARY for whose opinions we have in general great respect discourses in a timely manner on the hygiene of summer travel. There is certainly room for a caution of the traveling public as to impurities of drinking-water, and as to the importance of prompt and regular attention to the calls of nature during the vicissitudes of journeying. Attempts to popularize a knowledge of hygiene are not to be lightly discouraged. But there is a limit, we believe, to the drugs which it is wise to place in the grip-sack of the average summer tourist. The list which our contemporary suggests as comprising the "small stock" that travelers will do well to provide and carry for preventing illness is as follows: —

"Seidlitz powders, cathartic pills, brandy, cholera-mixture, paregoric, aromatic spirits of ammonia, soda-mint, ginger, a few opium suppositories, quinine pills, and prepared mustard leaves."

Some of these drugs are tolerably active in their effects, and it is pleasant to know that the average traveler is so familiar with their therapeutic uses as to be able to employ them with precision and safety.

We have only to add that surgical casualties ought to be equally well provided for, and to suggest a similarly efficient armamentarium in that department. The prudent paterfamilias will do well to take in his valise a stomach pump, a few catheters, some splints, an amputating knife and saw, etc. Possibly it would be well to add a *trephine* and a *tracheotomy tube*.

We regret to say that it appears that the English are not always to be similarly trusted in carrying about and administering active drugs. Just after writing the foregoing paragraph we chanced upon the report of evidence before a coroner's jury in England by which it appeared that one Josiah Haynes, an auctioneer, having gone on a journey one day with his housekeeper, Mrs. Todd, gave her at the Victoria Park Station, as she was feeling ill, a "calomel" powder, "telling her to take it at bedtime, as it would do her good." It appeared, moreover, that about four years ago Mr. Haynes, wishing to kill a dog, had purchased from a friend, a druggist in Somersetshire, some strychnia, some of which he gave to the dog and killed it, whilst the remainder was put away in a box. A few days before the day in question, whilst turning over some papers, he accidentally came across it, and put it in his waistcoat pocket for safety. On reading an account of the case in the papers he felt in his pocket for the strychnia and found it gone, whilst the calomel powders were still there. Mrs. Todd had passed the "calomel" along to her father, wishing also to do him good. The parent unfortunately died of strychnia poisoning. The jury censured Haynes.

THE CHOLERA IN FRANCE.

SINCE our last issue the epidemic of cholera has been gradually increasing in Toulon and Marseilles, at least if it is to be measured by the records of daily deaths and of cases in the hospitals. The panic among the inhabitants cannot be taken as a measure of the extent of the disease or of the reality of the danger, for it has evidently been very much exaggerated. On the other hand, the intelligence emanating from government sources seems as little reliable for an exact index of the real condition prevailing.

Quantities of people are reported as having fled from Toulon and Marseilles, and trade in the former place seems to be completely at a stand-still. Later reports tend to confirm the statement that the disease was introduced at Toulon by the French transport Sarthe returning with troops from the East, and it is now said she had fourteen cases of cholera on board when in the Red Sea.

The weather in the South of France has been extremely hot of late, and the usual condition of the streets, the drains, and the houses in southern French towns is such as to offer, in connection with hot weather, all necessary facilities for the propagation of a disease like cholera. The unreasoning fear of the populace is another element aiding its spread.

Our general government and local authorities are, we are glad to see, taking suitable steps to guard against an introduction of the disease, and against extreme consequences should it find a lodgment on our shores, an event entirely within the bounds of possibility.

Whilst deprecating panics and senseless fears, it is equally our professional duty to discourage foolish writing about this disease being something else than true cholera, or that having reached its present proportions in populous centres, it is likely to retire propitiated by the limited number of victims hitherto secured. True courage and foresight are not made manifest by depreciating an enemy, least of all one which in times past has proved itself so formidable.

THE FISKE PRIZES.

Too little publicity, as it seems to us, is given to the details of the Fiske prizes, as by the limitations of the will of the late Dr. Fiske the trustees of the fund are permitted to advertise only in certain newspapers. For 1885 four prizes are offered, each of two hundred dollars. The following are the subjects proposed: —

I. Original Investigations in Household Hygiene.

II. The Present State of the Germ Theory of Disease.

III. Physiological and Pathological Effects of the Use of Tobacco.

IV. Migraine; its Nature and Treatment.

Every competitor for a premium is expected to forward to the secretary of the trustees, Charles W. Parsons, M. D., Providence, on or before the first day of May, 1885, free of all expense, a copy of his dissertation, with a motto written thereon, accompanying it with a sealed packet having the same motto on the outside, and his name and residence within.

The author of the successful dissertation must transfer to the trustees all his right, title, and interest in it for the benefit of the Fiske fund.

These prizes were established by the late Dr. Caleb Fiske, at one time president of the Rhode Island Medical Society, and the fund is in the hands of trustees who are members of that Society.

FREE BATHS IN WINTER.

DR. TAUZSKY, of New York, is endeavoring to inaugurate a movement for securing public bathing facilities for the poor of the great cities in the winter time. Free public baths for the summer months have become an established institution in many of the large cities, but warm baths for the "great unwashed" the year round are not as yet generally provided. We understand that the Society of Ethical Culture of New York has in its possession quite a large sum of money contributed for the elevation of the condition of the poor, some of which it is proposed to expend in this way. Compulsory cleanliness is harder to secure than

even compulsory vaccination, but it seems a pity that those of the poor who desire to be clean should not have facilities therefor. It is possible that emigrants whose condition warrants it might be compelled to bathe before landing, and if with the bath-house were associated a wash-house for the simultaneous purification of their clothing, it is possible that the measure might be of some value as a preventive of disease. We understand that in London arrangements of this sort are provided under the auspices of the several parishes. In this country obviously the proper channels for the establishment of such baths are the local boards of health.

MEDICAL NOTES.

NEW YORK.

— In the final estimate of city expenses for 1883 $25,000 was appropriated to enable the Commissioners of Charities and Correction to furnish additional accommodation for the pauper insane in their charge. A short time since the Commissioners selected 1067 acres of land on Long Island, between Farmingdale and Deer Park, for this purpose, and have now secured the approval of the Board of Estimate and Apportionment in making the purchase with the above appropriation.

— Dr. William M. Smith, Health Officer of the port, has issued orders to the effect that mails leaving French ports after the 28th ult. shall be detained for disinfection at quarantine, and that all French mails arriving from English or other ports, which leave such ports subsequent to the 30th ult. without having been disinfected at the port of departure or at the port where received from French ports, shall also be detained until disinfected. In addition, he requests that French mails via English ports should be isolated from other mails on shipboard, in order to facilitate the disinfection and release of such mails and prevent the necessity of disinfecting mails from other ports.

— The street-cleaning department seems to be fully alive to the necessity of keeping the streets as clean as possible, in view of the possible introduction of cholera into this country, and the Commissioner has intimated to the contractors that he would require of them more than ordinary attention this summer, particularly in those neighborhoods where some of the people are known to be careless in observing the ordinances and the rules and regulations of the Sanitary Code.

— Dr. Joel Foster, one of the oldest practicing physicians in the city, died on the 29th of June, after an illness of about six weeks. He was born at Barnard, Vt., March 10, 1802. He first studied medicine under Dr. Gallop at Woodstock, Vt., and afterwards attended lectures at the Jefferson Medical College of Philadelphia, from which he received the degree of M. D. He practiced for a number of years at Schoharie, N. Y., and in 1855 came to New York to live. When the President called for volunteer surgeons after the second battle of Bull Run, Dr. Foster secured thirty-seven physicians from the Academy of Medicine and started for the field, afterwards receiving honorable mention for his services. He was the oldest life member of the State Medical Society, and was one of the founders of the Academy of Medicine.

MEDICO-LEGAL NOTE.

— The *Weekly Drug News* remarks that Victor C. Vaughan, M. D., and James H. Dawson, Ph. C., have made experiments (abstract from Contributions from Chemical Laboratory, University of Michigan) with the view of determining whether or not arsenious oxide (common white arsenic) would diffuse through the body after it had been mixed with water and injected into the mouth or rectum after death, this having been the most important question which arose in a murder case tried in Michigan within the past year. They concluded, from experiments on dead bodies, that arsenic is widely diffused through the body when introduced after death, and that, therefore, in a case of suspected arsenical poisoning, if arsenic has been introduced into the body after death, the finding of the poison in the various organs is no proof that the arsenic was introduced during life and was the cause of death. Arsenical embalming fluids may, according to the above, be used as a means of covering up crime, and this fact should be borne in mind in cases of supposed poisoning by arsenic.

Miscellany.

TREATMENT OF ACUTE ABSCESS.

Professor Smith, of the University of New York, has recently published in the *Æsculapian* his treatment of acute abscess, for which he claims in the case reported a saving of at least a month to the patient. He advises a similar procedure in carbuncles and furuncles, in fact wherever there is necrosed tissue. The method is as follows: —

(1.) Wash well with soap and water and a flesh brush the skin at the seat of the operation, then douche with a solution of corrosive sublimate 1 to 500. (2.) Open the abscess with a knife treated with a solution of carbolic acid 1 to 30, the opening to be of a size to admit the nozzle of a Davidson syringe. (3.) Force out the contained pus by pressure, when it ceases to flow, introduce the nozzle of the syringe, well disinfected, the edges of the wound being held firmly around it, and distend the cavity to its fullest capacity with corrosive sublimate solution 1 to 5000. (4.) Force out the injected fluid by pressure. (5.) Repeat this injection as often as may be necessary until the water flows away quite undiscolored. (6.) Lay the cavity open to its full extent, keeping up irrigation with a corrosive sublimate solution 1 to 2000. (7.) Cut away all shreds of tissue, and scrape off gently any granulations that may be upon the living surface of the abscess by means of a curette, until a perfectly clean surface is everywhere apparent. (8.) Ligature any small vessels that may be bleeding with carbolized ligatures, thorough irrigation being kept up with the corrosive sublimate solution throughout. (9.) Close

the wound with an uninterrupted suture, except at the most dependent point, where a small opening must be left for drainage. (10.) Over the drainage opening place a disinfected sponge to absorb discharge. (11.) Sprinkle the external wound and adjacent skin with iodoform; cover the wound well with folds of gauze between which iodoform is well sprinkled; over the layers of gauze apply a dressing of borated cotton, and if in a limb, secure all by a light plaster-of-Paris bandage. In the case reported, that of a man with abscess in the thigh, the result of injury, and large enough to contain a pint, and to get at which an incision two inches deep had to be made, the suffering and fever before the operation was considerable. Temperature 103° F. The day after the operation the temperature fell to normal, and did not again rise to 100°; the pain ceased entirely, the appetite returned, and he enjoyed sound and undisturbed sleep. The patient stated that from his recovery from the anæsthetic he had felt entirely well. The dressing was removed on the eighth day. The wound was entirely closed, and though there was some thickening of the tissues involved in the injury there was no tenderness. He could walk without pain or inconvenience, and there was a rapid subsidence of the swelling of the part.

A MEMORIAL PROFESSORSHIP TO THE LATE DR. S. D. GROSS.

THE Alumni Association of Jefferson Medical College has inaugurated a movement to secure the endowment of a memorial professorship, to be designated the S. D. Gross Professorship of Pathological Anatomy. The profession at large, the personal friends of the late Professor Gross, and others who may be interested in such an object, are cordially invited to participate in this recognition of the services and extended reputation of the late Professor Gross.

Contributions may be sent to Dr. R. J. Dunglison, Treasurer, Lock Box 1274, Philadelphia P. O.

THE DIAGNOSIS OF SCIATICA.

A DIAGNOSTIC point in sciatica is given by De Beurmann[1] which we have never seen alluded to. The patient lying on his back with the muscles of the leg and back relaxed, the affected leg is raised while in complete extension and flexed upon the abdomen. This causes marked pain in the course of the sciatic, especially intense at the sciatic notch, and the movement is resisted. If, then, the limb be lowered, and while the leg is flexed on the thigh, the latter is again carried up on to the pelvis, no pain will be felt. This phenomenon depends on the fact, verified by De Beurmann in experiments on the cadaver, that great tension of the sciatic is exerted by flexion of the thigh when the leg is extended, but almost none when the leg is flexed.

In the diagnosis of sciatica from crural neuralgia, affection of the femur, or coxalgia, in all of which diseases the position of the limb and seat of the pain may be similar, this manœuvre is of value. If the nerve trunk is free of disease there will be no difference in the amount of pain caused by the extension or relaxation of the nerve by the different positions indicated. In other words, in affections other than sciatica, the movements given to the coxo-femoral articulation will be equally painful whether the leg is extended or flexed on the thigh.

[1] Arch. de Physiologie, April, 1883, also Révue Médicale, April 19, 1884.

THE MORTALITY OF MARRIED LIFE.

THE *Journal of the American Medical Association* cites some rather remarkable statements from an address delivered by Dr. William Pratt, of London, as follows: —

"According to statistics the married life is not only the purer, producing the minimum of evil-doers and criminals, but it is also by far the most healthy. Take the male sex, and it is seen that from twenty-five to thirty years of age one thousand married men furnish six deaths; one thousand bachelors furnish ten deaths; one thousand widowers furnish twenty-two deaths. The figures, however, become very unfavorable if the marriage be contracted before twenty. Out of eight thousand young men married before twenty their mortality has been found to be, before marriage, only seven per one thousand; after marriage, fifty per one thousand. With respect to the female sex we find a similar advantage of marriage over celibacy, but on the same condition. If young girls be turned into wives before twenty a like mortality befalls them which befalls the other sex. Everywhere young married people from eighteen to twenty years of age die as fast as old people from sixty to seventy years of age. The common sense and common law of Western Europe have with perfect justice marked twenty-one as the age of maturity. After that epoch, however, marriage should be contracted as soon as practicable. It is the healthiest and the happiest life; the best for the individual and for the community."

THE DRAWBACKS OF RANCH LIFE FOR THE PHTHISICAL.

IN a paper on Colorado for Invalids in the current number of the *Popular Science Monthly*, Dr. Samuel Augustus Fisk thus corrects what he considers a common mistake among Eastern consumptives going to Colorado for their health, as well as among the physicians sending them: —

It may be a good thing for the person affected with phthisis to go into ranching after he has been in the State long enough to know what he is about in doing so; but we enter a protest against the idea, which is somewhat prevalent in the East, that in order to recover his health the invalid should go on to a ranch and herd sheep. The reasons for making this protest are that such advice is frequently given, and, as we are led to judge, by physicians who have but the vaguest ideas of the nature of the course they are prescribing. The invalid, on coming to Colorado, needs to have life made as easy and pleasant for him as possible. As a rule, the sacrifices he has to make, in consequence of his sickness, render him for the time being peculiarly dependent upon sympathy. He should be so situated that he can have the benefit of pleasant society and diverting companionship. Now, ranch life is necessarily somewhat rough and usually monotonous, and when it

comes to herding sheep even a vigorous man, new at the business, finds it most irksome and fatiguing. We think it is a great mistake to increase the trials of an invalid by imposing upon him, in addition to a separation from his friends, an almost entire absence of companionship, a life that is rough in the extreme, and a dietary that is innutritious, uninviting, and monotonous. The average ranch house is a miserable shanty, out on the plains, away from neighbors, where the usual diet is bacon floating in grease; hot flapjacks, made fresh with water and baking-powder; molasses, and coffee without milk.

If it be possible for the invalid to go to some nice ranch, near a village, where he can have good, wholesome diet, pleasant associates, out-of-door occupation, and where his hours will necessarily be regular, then the conditions for recovery are excellent. Such ranches are to be found. But the average ranch, on the plains, is much inferior to the average farm-house in the East, and the surroundings and diet are such as, at first, to try very severely the strongest man.

The matter of diet is one to which, as it seems to the writer, sufficient attention is not usually paid by the invalid. He should be so situated that he can have an abundance of plain nutritious food, well cooked, and a variety sufficient to invite the palate. It stands to reason that if the waste in the system, produced by the disease, is not only to be made good, but it, in addition, as is desirable, the patient is to put on fat, he must take into his system material sufficient in quality and quantity wherewith to do it. Any place, be it on a ranch or at a boarding-house, where the table is uninviting and nauseous, is a bad one for the invalid, and one that he should leave as soon as possible. It is on this ground that we base a good deal of our objection to ranch life. As indicated, the food is usually poor in quality, insufficient in quantity, and indigestible. Contrary to what might be supposed, even on a cattle-ranch, milk is seldom to be had, and if the black coffee is to be drunk *au lait*, it is made so with condensed milk. The life, also, is monotonous and trying, and the distance from medical assistance, if needed, is so great as to be, in hæmorrhagic cases, of serious importance. The writer is convinced that ranch life, the so-called "ranch-cure for consumptives," especially those just out from the East, is a mistake; and he is certain that its good qualities, in giving occupation and an out-of-door life, are to be had without the bad ones by going to some one of the many towns on the eastern slopes of the Rocky Mountains.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 28, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diphtheria and Croup.	Measles.
New York	1,340,114	771	418	34.84	12.87	20.93	3.64	3.90
Philadelphia	927,995	402	179	22.32	11.76	12.72	1.04	1.43
Brooklyn	644,526	304	170	39.27	13.20	28.71	2.31	1.32
Chicago	632,100	245	136	36.45	7.20	13.50	4.95	9.90
Boston	423,800	159	54	15.75	17.64	2.52	5.67	—
Baltimore	408,520	237	154	21.84	9.66	18.48	.84	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	176	94	29.64	13.11	25.08	1.14	—
New Orleans	234,000	188	76	21.73	11.13	11.13	—	2.12
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	116	79	38.70	11.18	34.40	—	—
Pittsburg	180,000	87	15	16.66	8.33	—	4.76	5.95
Milwaukee	142,400	48	30	24.96	8.32	4.16	2.08	—
Providence	119,405	33	8	27.27	21.21	15.15	—	—
New Haven	62,882	24	—	12.48	12.48	8.32	—	—
Nashville	54,400	23	10	33.80	26.10	25.10	4.35	—
Charleston	52,286	34	13	8.82	8.82	2.94	—	—
Lowell	71,447	21	8	9.52	9.52	9.52	—	—
Worcester	69,442	18	12	44.44	16.66	16.66	5.55	—
Fall River	62,674	22	11	18.22	9.11	18.22	—	—
Cambridge	60,995	15	4	6.66	6.66	—	—	—
Lawrence	45,516	9	4	33.33	—	22.22	11.11	—
Lynn	44,895	12	2	16.66	25.00	—	8.33	—
Springfield	38,090	16	2	—	18.75	—	—	—
Somerville	31,350	6	2	16.66	16.66	16.66	—	—
Holyoke	30,515	12	6	41.66	25.00	41.66	—	—
New Bedford	30,144	2	0	50.00	—	50.00	—	—
Salem	29,503	16	1	—	37.50	—	—	—
Chelsea	24,347	10	3	10.00	10.00	10.00	—	—
Taunton	22,693	1	0	—	—	—	—	—
Gloucester	21,400	4	1	—	25.00	—	—	—
Haverhill	20,905	11	1	—	18.18	—	—	—
Newton	19,421	7	1	14.28	28.56	—	14.28	—
Brockton	18,323	5	0	40.00	20.00	20.00	20.00	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	5	0	—	40.00	—	—	—
Fitchburg	13,433	4	1	—	—	—	—	—
Massachusetts towns	355,060	66	17	15.20	12.16	4.56	4.56	—

Deaths reported 3109 (no reports from St. Louis and Buffalo): under five years of age, 1512; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 913, diarrhœal diseases 561, consumption 283, lung diseases 174, diphtheria and croup 82, measles 71, scarlet fever 54, typhoid fever 39, whooping-cough 27, malarial fevers 25, cerebro-spinal meningitis 21, erysipelas 18, small-pox eight, puerperal fever five, typhus fever two. From *scarlet fever*, New York 17, Philadelphia 11, Baltimore six, District of Columbia and Milwaukee three each, Brooklyn, Chicago, Boston, and New Orleans two each, Cincinnati, Pittsburg, Providence, Waltham, Weymouth, and Salisbury one each. From *typhoid fever*, Philadelphia eight, New York and Chicago five each, Boston, Baltimore, and New Orleans three each, Pittsburg, Providence, and Nashville two each, Cincinnati, Milwaukee, New Haven, Charleston, Worcester, and Lynn one each. From *whooping-cough*, New York and Brooklyn four each, Boston, Cincinnati, and New Orleans three each, Chicago, Baltimore, Pittsburg, and Milwaukee two each, District of Columbia and Somerville one each. From *malarial fevers*, New York eight, Brooklyn and New Orleans four each, Chicago and Baltimore three each, Philadelphia two, District of Columbia one. From *cerebro-spinal meningitis*, New York five, Philadelphia and Chicago three each, Milwaukee, Nashville, and Worcester two each, Boston, Cambridge, Brockton, and Peabody one each. From *erysipelas*, New York seven, Chicago, Boston, and Baltimore two each, Philadelphia, Brooklyn, Cincinnati, Providence, and Worcester one each. From *small-pox*, New Orleans four, Philadelphia two, Baltimore and Nashville one each. From *puerperal fever*, New York, Chicago, Boston, Milwaukee, and Charleston one each. From *typhus fever*, New York two.

One case of small-pox was reported in Cincinnati; scarlet fever 38, diphtheria 23, and typhoid fever five in Boston; scarlet fever 34 and diphtheria six in Milwaukee.

In 105 cities and towns in Massachusetts, with an estimated population of 1,420,465 (estimated population of the State 1,955,104), the total death-rate for the week was 15.41 against 15.00 and 14.40 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending June 14th, the death-rate was 19.8. Deaths reported 3326: acute diseases of the respiratory organs (London) 246, whooping-cough 121, measles 163, scarlet fever 66, diarrhœa 63, fever 33, small-pox (London 27, Liverpool five, Sheffield one) 33, diphtheria 29. The death-rates ranged from 13.4 in Brighton to 28 in Wolverhampton; Bradford 14.7; Nottingham 17; Leicester 17.7; London 18.8; Birmingham 18.8; Sheffield 18.9; Leeds 22.8; Manchester 23.9; Liverpool 26.9. In Edinburgh 21.4; Glasgow 26.7; Dublin 21.7.

For the week ending June 14th, in the Swiss towns, there were 38 deaths from consumption, diarrhœal diseases 21, lung diseases 20, typhoid fever 21, diphtheria and croup six, whooping-cough three, measles two, erysipelas two, small-pox one, scarlet fever one. The death-rates were, at Geneva 21.4; Zurich 15.7; Berne 37.8.

The meteorological record for the week ending June 28th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
June, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 22	30.100	66	76	61	51	68	74	64	NE	E	SW	10	11	6	C	C	C	—	—
Mon., 23	30.166	68	79	55	68	43	92	65	SW	SW	SW	6	12	8	C	F	C	—	—
Tues., 24	29.840	74	84	61	91	71	85	82	SW	S	SW	15	12	10	O	F	C	—	—
Wed., 25	29.830	68	87	58	76	97	100	91	SW	SE	N	11	7	12	C	R	R	—	—
Thurs., 26	30.232	57	60	54	93	72	81	82	NE	NE	NW	14	14	4	O	O	C	—	—
Fri., 27	30.225	62	71	52	82	65	86	78	N	SE	Calm.	5	9	0	C	C	C	—	—
Sat., 28	30.288	67	84	56	73	52	70	65	W	SE	W	4	9	7	C	C	C	—	—
Mean, the Week.	30.097	66	87	52				75										17.55	2.73

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY FROM JUNE 28, 1884, TO JULY 3, 1884.

HARTSUFF, ALBERT, major and surgeon (Fort Riley, Kansas). Granted leave of absence for one month, with permission to apply for one month's extension, to take effect when his services can be spared. Paragraph 6, S. O. 130, headquarters Department of Missouri, June 25, 1884.

MIDDLETON, J. V. D., major and surgeon. Ordered to relieve Surgeon B. E. Fryer from duty as post surgeon, Fort Leavenworth, Kansas, on or before July 1st. Paragraph 5, S. O. 133, headquarters Department of Missouri, June 28, 1884.

DICKSON, JNO. M., captain and assistant surgeon. Assigned to duty as post surgeon, Alcatraz Island, California. Paragraph 3, S. O. 71, headquarters Department of California, June 19, 1884.

GIRARD, A. C., captain and assistant surgeon. Granted leave of absence for six months, with permission to go beyond sea. Paragraph 11, S. O. 148, A. G. O., June 26, 1884.

GIRARD, J. B., captain and assistant surgeon. Ordered to relieve Surgeon W. E. Waters from duty as post surgeon, Plattsburg Barracks, Plattsburg, N. Y. Surgeon Waters, upon being relieved, directed to return to his proper station (Madison Barracks, N. Y.). Paragraph 3, S. O. 131, headquarters Department of the East, June 30, 1884.

BENHAM, R. B., first lieutenant and assistant surgeon. From Department of Dakota to Department of Texas.

GORGAS, WILLIAM C., first lieutenant and assistant surgeon. From Department of Texas to Department of Dakota. Paragraph 8, S. O. 150, A. G. O., June 28, 1884.

WALES, PHILIP G., first lieutenant and assistant surgeon. From Old Fort Colville, Washington Territory, to Fort Cœur d'Alene, Idaho. Paragraph 3, S. O. 89, headquarters Department of Columbia, June 23, 1884.

LIST OF OFFICIAL CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING JULY 5, 1884.

WELLS, H. M., surgeon, detached from Naval Hospital, Brooklyn, ordered to U. S. S. Lancaster.

DR. J. S. SAYRE, DR. F. J. B. CORDEIRO, appointed assistant surgeons. Commissions dated 27 June, 1884.

BOOKS AND PAMPHLETS RECEIVED. — Auscultation, Percussion, and Urinalysis. An Epitome. Edited by C. Henri Leonard, A. M., M. D. Fully Illustrated. Detroit, Mich. 1883.

The Sixtieth Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1884.

Address.

THE PHYSICIAN A POPULAR EDUCATOR.

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 11, 1884.

BY JOHN CROWELL, M. D., OF HAVERHILL.

Mr. President and Fellows of the Massachusetts Medical Society, — We live in an age remarkable for successful industry in every department of human skill and enterprise. Each day adds to the stock of man's inventive faculty in the curious mechanisms for the quicker and easier accomplishment of labor, and the splendid results are seen in every town and hamlet in the land. Material prosperity, as one of the elements of our civilization, is also shown in the colossal fortunes amassed in our great cities, and in the monuments of skillful labor that adorn our streets, and stretch from sea to sea in a net-work of iron bands.

We hear the almost boastful cry of the successful men of vast financial achievements, and the lips of praise do swift homage to those giants who control great enterprises and hold the stock market in the palm of the hand.

Amid the devotion paid to the energy and the force that move this mighty machinery of business, amid all our admiration for the wealth that builds cities, founds schools, endows hospitals, and contributes to the thousand charities that appeal to our humanity, let us inquire into another phase of a nation's greatness, — the intellectual elements that shape the thought and give direction to those movements without which material prosperity would work its own decay.

The present age is quite as remarkable for scientific investigation and philosophic research, for acute analysis and profound questioning, as for any material success and splendor. Against the achievements of the Rothschilds and the Vanderbilts we place the Pasteurs, the Darwins, the Spencers, and the Bains. Philosophy, science, and philology are also the products of our time, and stand side by side, and quietly but firmly hold their own with the more pretentious forms of success that mark the industry of man.

The exalted position of the medical profession to-day is largely due to the patient investigations of the scientist in the laboratory and with the microscope. While the great world has pursued its noisy way the scholar has been busy in the recluse of his inner sanctuary[1] solving those problems, and unfolding those subtle theories that challenge our respect and admiration. Recent contributions to medical science form an epoch in our history. Who can estimate the value of that treasure-house, the chemical laboratory? What wonders in pathological analysis are daily unfolded by the microscope! How, by the invention and use of the most delicate instruments, can we detect the faintest indication of incipient disease! How, by minute dissection and a thorough understanding of the adaptation and relations of bone and muscle, fibre and tissue, some of the recent triumphs in operative surgery have been obtained! How broad and generous have become the modes of thought that give shape to our literature, and place our profession among the foremost of the learned systems of the world!

1 "The laboratory is the forecourt of the Temple of Philosophy; and whoso has not offered sacrifices and undergone purification there has little chance of admission into the sanctuary." — Huxley, Life of Hume.

This is seen in the sharpness with which the investigations, and theories, and hypotheses of scientists are challenged by their peers. No sooner does Robert Koch startle and delight the medical world by his Ætiology of Tuberculosis,[2] showing the result of a long series of microscopical experiments, than a score of enthusiastic investigators review his experiments, and out of Stricher's laboratory comes Spina[3] with a series of investigations calculated to completely overthrow Koch's theory which had made so promising a foot-hold, denying by the same line of experiments his most brilliant conclusions.[4]

To the physician whose experience stretches over a quarter of a century the condition of medical science to-day is full of sharp contrasts. He compares the abundant facilities for preliminary study with his own scanty resources in the days of his pupilage. He visits yonder building[5] with all its generous spaces and magnificent appliances; he examines the curriculum with its wide range of general and technical study; he sees the system of teaching and the methods of illustration conducted from a broader basis of scientific research and investigation; he looks with admiration upon the enthusiasm of the student, as, with an honest emulation, he works in the laboratory or in the dissecting room; and he mentally exclaims, "Would that I were young again, to revel in all this wealth of advantage and opportunity!"

But this evolution in medical teaching is but the outgrowth of humble beginnings. The foundations laid by the fathers were well laid, and, year by year, we have witness of their wisdom, and zeal, and patience in preparing the way for these larger results.

How redolent of honest praise are the names of Warren and Jackson and Bigelow. What a debt of gratitude we owe to those great lights in medical science that have just disappeared from our horizon. How universal is the homage paid to the genius of Sims, and Parker, and Gross, whose wise and profound teachings, combined with the labors of our eminent living teachers, have shaped the methods, and guided the research of modern thought and investigation, —

> "With truth's directness, meeting each occasion,
> Straight as a line of light."

The example of the University in establishing a sounder system of medical education has been productive of wholesome results. And, inspired and impelled by the example, the other great medical schools of the land are revising their courses of study, and broadening and deepening their methods of instruction. So that the ambitious student, desirous of obtaining a thorough preparation for the great duties of our profession, finds the doors of science wide open to invite and to receive him, that she may unfold her mystic stores.

As the preparations for the work of the profession are so ample, as the avenues to success are so full of dignity and honor, how steadfast and noble should be the allegiance to the hand that has led us on. For, as Lord Bacon expresses it: "I hold every man a debtor to his profession; from the which as men of course do

2 Die Etiologie das Tuberculose, Berliner klin., 1882.

3 Studien ueber Tuberculose, Wien, 1883.

4 And what is this contest but a repetition of the profound conception of Aristotle, that "Science begins when from a great number of experiences one general conception is formed which will embrace all similar cases."

5 New Building of the Harvard Medical School, Boylston Street, Boston, dedicated October 17, 1883.

seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereto." [1]

The physician, by the special discipline for his work, and by the delicate relations he sustains to his patients, enlists confidence, and his opinions carry the weight of authority. He stands at those gateways of anguish that open and close upon mortal life. His fingers are upon those delicate keys whose slightest touch vibrates through a thousand strings. His well-attuned ear detects the faintest discord in the vital harmonies, and the varying phases of morbid action cannot escape the searchings of his aided vision.

But there are relations of a more general character that demand our attention. The great public is ignorant upon matters of vital interest, and it may not be unprofitable to use the indulgence of this hour and consider the attitude of the

PHYSICIAN AS A POPULAR EDUCATOR.

What, then, are some of the topics that claim attention in our *general* relations to the community? Foremost stands the prolific question of Sanitary Science.

The literature of hygiene has been scattered broadcast ove. the land during the last decade. Science has been busy in unfolding to the public the more common sources of disease as found in house-drainage and in the ordinary methods of disposing of sewage. When the modern system of household appliances was first introduced into our dwellings we were so fascinated with the ingenious contrivances that they found a ready place in every part of our houses. Bedrooms, passageways, and halls were adorned with the glitter of marble basin and plated faucet, while convenient bathrooms opened directly into the sleeping apartments of guests, without much reference to the character of the plumbing or the construction of sewers. As a result, fine residences became the receptacles of filth distributed in an ingenious net-work of piping, as if contrived especially for the introduction of disease from cellar to attic.

This condition has been largely modified by the intelligent oversight of Boards of Health, and under the guidance of our State Board rapid strides are being made towards the remedying of many popular delusions. Still, much ignorance prevails concerning the simplest rules of health as respects domestic arrangements, and the physician by his familiarity with the location and the construction of houses can, by timely interference, reform many grave errors, and prevent their repetition in newly-constructed homes.

The ambitious and successful business man, anxious to build a fine house, is apt to leave the plan of its construction entirely to the architect, who too often concentrates his thought upon the æsthetic aspects of the structure, so appealing to the eye and so gratifying to the taste. The essential provision for plumbing and drainage is dealt with as of secondary importance, and the house of our friend and patient which we are expected to praise and admire is full of the results of bungling plumbing, and leaky pipes and a damp cellar unconsciously defile and dim the pretentious beauty of drawing-room and hall.

Says a recent writer of high authority in sanitary science. "The majority of even the best houses are now very badly drained, and are subject to the production of sewer-gas at many points between the outer wall of the house and the fixtures within it. Occupants are generally careless or ignorant of this fact, and the verdict of 'my plumber' is still considered by the average house owner a sufficient certificate of good sanitary condition. Large traps clogged with accumulations of putrefying kitchen waste, soapy compounds, fæcal matter, etc., are still the rule rather than the exception." [2]

(*To be concluded.*)

[1] Maxims of the Law, Preface.

[2] Sanitary Drainage, North American Review, August, 1883. George E. Waring, Jr.

Original Articles.

A CASE OF MYXŒDEMA, WITH AUTOPSY.[3]

BY E. G. WEST, M. D.

IN reporting this case of myxœdema, in which I was so fortunate as to secure an autopsy, — the only one, I believe, which has taken place in this country, — I shall try to mention fully *all* the symptoms noted by me and their development, even at the risk of being too diffuse, in order that in the subsequent study of this strange disease this report may be as full as possible, and for fear that some of the symptoms which may now appear of no value may prove to be of the greatest importance.

My patient, Mrs. P., was of American parentage and fair circumstances. Her father died at the age of fifty-eight of insanity, brought on by a blow upon the head. Her mother, now sixty years old, has a highly nervous temperament, and has suffered from gastralgia and other neuroses since her girlhood.

Mrs. P. was born and brought up in Roxbury, now a part of Boston, and during childhood contracted and passed through the measles, whooping-cough, and chicken-pox, but never had an attack of scarlet fever. At the age of fourteen she began to menstruate, and at seventeen had a mild attack of typhoid fever, which left no sequelæ. At about the age of sixteen, during the winter, when the snow was deep, she was suddenly awakened from a deep sleep, in the middle of the night, by a steam fire engine being stuck in the snow immediately in front of the house. She thought the house was on fire, which produced such a shock that for days, even weeks, she would often start out of sleep greatly frightened and crying, but this soon passed off. I note this fact inasmuch as almost all observers have noticed a similar mental shock, though very much worse than this. She has always enjoyed a peculiarly happy home and many advantages. She was very pretty and bright, and a good pianist, indeed, she played the piano long after her marriage for the Sunday-school of Rev. Dr. Patterson's church. She was slightly built, and never a strong girl, though generally considered as enjoying good health. She was married at the age of twenty. A few weeks after this she caught her hoop-skirt and fell down the front steps and hurt herself badly, but soon recovered. After this she fell down a whole flight of stairs. Soon after this, also after a severe effort, she suffered pain in the epigastrium, probably of the same nature as her mother's gastralgia, and for a long time this would return after almost every immoderate exertion.

At the age of twenty-two, or two years after her

[3] Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, May 14, 1884.

marriage, she gave birth to her first son. Nothing abnormal occurred during either gestation or parturition, and she was about the house in four weeks, but seven weeks after the birth both her legs swelled somewhat, and gave her considerable trouble, and although a diagnosis of phlegmasia dolens or milk leg was made by the practitioner in attendance still she was not confined to her bed, and there were no inflammatory symptoms, and she suffered an aching sensation rather than a pain. I shall anticipate by saying that no evidence of inflammation of the saphenous vein was found at the autopsy, and that the true beginning of the disease was here, thirteen years before her death, though the family set the beginning four years later. She lost a good part of her milk at this time, and was obliged to use the bottle as well as her breasts. After a few weeks she improved in health, and gained flesh, but was never as strong as before. About this time also she had a second attack of the measles, which left no observable sequelæ.

Two years after this, when she was twenty-four years old, she gave birth to her second son, with no abnormal symptoms before, during, or after confinement, except a great clumsiness, which came on during this pregnancy, and grew gradually worse through her whole life, and was the only symptom of incoördination present.

Two years after this, or when she was twenty-six years old, she gave birth to a daughter, and while carrying this child she suffered from cold and chilly sensations, and the legs and the veins in them swelled somewhat and gave her a great deal of trouble. She passed through parturition, and got up without abnormal symptoms of any sort. It is from this time that the family dates the origin of her disease, though I think it commenced soon after the first child. After nursing the babe for three months a feeling of pressure and heaviness was experienced in her arms, and later in her legs. They felt, as she expressed herself, as if her baby had rested upon them all night; this gradually grew worse, and her arms felt as if they would give out while practicing the piano, and soon she was obliged to give up playing at church. She used to joke about having "milk legs in her arms" at this time. While nursing the baby she also had severe pains in the abdomen, and thought she was going to have gastralgia through her life like her mother, but this passed off afterwards. She weaned her babe after nine months' nursing. At this time she described her legs as looking like "pig pork." Her appetite was good, and she slept and ate well, indeed, she could sleep at any time. Her back was very lame.

Mrs. P. was now treated with electricity, and improved somewhat, but during the next two years she became very fleshy, and grew gradually weaker and more clumsy, and her tongue thick and stiff. At this time the children (who are now quite strong and bright except the girl, who is rather delicate) had whooping-cough, and she got thoroughly tired out and was worse. She was not confined to bed, but after an attack of faintness when once alone, she gave up her cares and housekeeping and lived with her mother. She described herself as having no limberness anywhere, and as feeling like a stiff old lady even though she was only twenty-eight years old. She never went out alone, and when taking an airing she felt as if she could never get back, and dreaded crossing the street, and felt like catching hold of the fence and walking by it. She dreaded crowded places, and was liable to suddenly become dizzy and faint. She was always chilly, and wore a shawl even in hottest weather, her hands and feet were especially cold, and her head hot. She could not apply herself to anything.

At about this time Dr. Cheever removed several polypi from her nose, but with no undue hæmorrhage.

These symptoms continued with greater or less severity until December, 1881, when she first came under my observation and care. She had not then menstruated for over eleven weeks, and was fearful that she was again pregnant, which fortunately proved not correct. She had never miscarried in her life. Her condition then was like one suffering from chronic Bright's disease, for which I must certainly admit that I took it, and it was not until after constant observation, taking notes, and study of her symptoms, that I was shaken in my diagnosis and had to abandon it.

Her temperament was the most calm and deliberate, unruffled and unirritable I ever saw, even with her children who were apt to be rogues. Her facial appearance was very noticeable, all expression seemed to be ironed out, so to speak. The hair had fallen out so that it was very thin, and from the line of demarkation of the forehead backward there was a peculiar yellowness of the scalp as if stained by bile pigments, but this was the only part of the body so stained, and the pigment still remained even after repeated washings in borax, sapo viridis, etc, etc. Her forehead was clear, but the eyelids were very characteristic; they would puff out and become baggy and translucent, sometimes to such an extent that she could hardly open her eyes, and it was never wholly absent. The contents could be driven out by pinching, like the ordinary œdema. She was troubled about seeing, but sight was better in the right eye than in the left, and when I examined the eyes with the ophthalmoscope there seemed to be a sclerosis of the vessels of the retina about the optic nerve, and the whitish patch was larger in the left than in the right eye.

Her cheeks were swollen, nose was broad and thick, and lips large and protruding. The swelling here was not like that of the eyelids, which was puffy and translucent, nor the peculiar appearance of Bright's disease, but a thickness and heaviness. The skin of her whole body was rough, more especially of the hands and feet, and more noticeable in cold weather than in warm, and had the appearance of a general chronic eczema. Her cheeks had a most remarkable dusky reddish-purple hue which never faded away, but always remained and gave a semi-appearance of health to the casual observer. The mucous membrane of the lips and mouth had a deeper color even to a violet, except the tongue, which was pale in comparison.

Her tongue was entirely too large for her mouth, and indented with her teeth, and although her throat was large and broad still I could only with difficulty press down the tongue so as to get a view of the pharynx, which was rather pale than otherwise. The flesh of the tongue also had a harder feel than is usual.

She had lost some of the acuteness in hearing, and to a great extent that of taste and smell, especially when she was suffering from a cold, when everything tasted alike, and she had no choice in foods.

And here it would be well to mention her great liability to attacks of coryza and mild bronchitis, of catching cold, which she was continually doing in spite of precautions, and particularly in cold weather, when

she was almost never free from it. Another peculiarity of the throat was that she had great difficulty in swallowing solids, being obliged to make several attempts before she succeeded.

Her voice and speech were very characteristic. The former was roughened, lowered, and nasal, and the latter was slow, deliberate, and rather indistinct. She dreaded talking with strangers. Her intellect was bright and clear; she was often witty, and understood her condition. There was nothing observable in the neck from external examination for or against the presence or absence of the thyroid gland. She slept soundly, though she almost always dreamed and snored very loudly. She would drop asleep in the daytime, particularly in the winter, even while talking; once she went to sleep while eating her breakfast, at another time while making her bed, which was about the only work she did.

She felt best in the hottest days of the summer, when she would perspire quite freely; at no other time did she perspire at all. (This was a valuable suggestion in my treatment of the case.)

There were no symptoms pointing towards the heart and lungs, and upon physical examination I found nothing. The heart sounds were clear and distinct though rather weak, and the size of the organ was normal. Her stomach was always in capital condition, her food never hurt her and seemed to be well assimilated. Her bowels were regular; as a rule, she had two movements a day, rarely she was constipated for a few days, and two or three times she suffered from a slight diarrhœa, while under my care. Her abdomen was enlarged, and she felt a dull heaviness, and imagined she might have a tumor of some sort. Her back gave her a great deal of trouble, she could not get upstairs with anything heavy in her hands, and complained of giving out altogether. She had some leucorrhœa, which yielded to mild treatment.

Upon examination of the abdomen the walls were so flaccid I could feel the spine. The liver was normal in size, as was also the spleen, but there was evidence of some fluid in the flanks which changed with the position of the patient. This afterwards disappeared and the walls grew quite fat.

Both legs were large and white and she used them clumsily. They were cold in all weather, and she could not get warm till night. There was a small amount of pitting on pressure over the tibiæ, but nowhere else. Her feet were enlarged, and horny in feeling, like her hands. She could not balance herself upon one leg at all; when trying this she experienced a tickling and numb sensation in her knees, which was especially marked when she knelt down. She could distinguish heat from cold when applied, and the tactile points on the calf were about two inches apart as tried by the compass. During the beginning of the disease, as I have noted before, she would often joke about having "milk legs" in her arms. Her hands and fingers were swollen, but by no means club-shaped or like a fin as they have been described, though they had a tendency that way. She could write a beautiful hand even to the last. Her pulse stood at about seventy-five beats per minute. I never had occasion to take her temperature, but I have no doubt from the general coldness of the skin that it would have stood below normal, as most observers have found it to be.

She remained under my care from December, 1881, to the following November. As I have noted before, she consulted me about her catamenia, which had been absent eleven weeks, but the uterus was not enlarged, and under iron and tonics, good feeding, and diuretics she came around at fifteen weeks, and was fairly regular for more than a year after, when she was again troubled in this way.

I kept a special watch over her *urine*, making it one of the chief guides to my treatment.

The first examination which I made, on November 19, 1881, gave the specific gravity 1012, and no albumen nor casts. On December 7th, when the quantity was about thirty ounces, the specific gravity was 1015, and there was a slight trace of albumen and *no sugar*, and only a very few hyaline and granular casts. This was the only time I ever found any casts, though I have spent a great deal of time hunting for them, in the thirty odd analyses that I made. Her urine was measured each day for the first week she was under my care without treatment: the largest quantity was thirty-eight ounces and the lowest twenty-three ounces, with an average of twenty-nine ounces, and specific gravity 1010.

It will be seen from this that the excretion of solids, especially urea, by the kidneys was about one fourth of what it should have been in a healthy person. The kidneys reacted very quickly under diuretics, and the quantity jumped to seventy-eight ounces on the second day, with specific gravity 1006, and slight trace of albumen. The record after this shows an average daily amount of about fifty-two ounces and specific gravity 1010. Out of thirty-three analyses, in two only was there a trace of albumen.

	Quantity in Ounces.			Specific Gravity.			No. of Ex.	Albumen.
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.		
January, 1882	83 oz.	40 oz.	66 oz.	1013	1008	1010	7	Once only slight trace.
February, 1882	77	40	56	1012	1007	1010	6	Once only slight trace.
March, 1882	79	30	52	1013	1008	1010½	6	None.
April, 1882	71	32	50	1013	1007	1009	4	None.
May, 1882	95	30	50	1015	1007	1010	3	None.
June, 1882	60	28	44	1008	1005	1006½	2	None.
July, 1882	61	35	50	-	-	1060	1	None.
August, 1882	58	32	43	-	-	1007	1	None.
September, 1882	75	35	55	-	-	-	-	-
October, 1882	76	34	50	-	-	-	-	-
Jan. before treat. began.	34	23	29	-	-	1010	1	None.
May 7, 1883	-	-	50	-	-	1012	1	None.

Mrs. P. improved considerably under treatment. She slept better, the eyelids improved, and water left the abdomen; her catamenia came about regularly, and she seemed to be gaining healthy flesh.

Dr. Minot was called in consultation in September, 1882, and thought that, upon the whole, it was a case of Bright's disease.

Dr. Edes saw her with me in October, about four weeks afterwards, and thought that it was a case of myxœdema. It was chilly weather by this time, and she was feeling a little worse. Her friends were very desirous that she should try that far-famed and much-advertised Warner's Kidney Cure, an example of one of the disgraces of our civilization. After a single analysis of her urine, a part of which I analyzed myself, the only abnormal thing about it being a low specific gravity, without seeing the patient Warner pronounced it the beginning of Bright's disease, and ordered his Cure. During the next six months she took forty-two bottles, with no effect whatever, except what might be practicably attributed to the diuretics and hot-air baths, which she did not give up. There was certainly no change for her good, and she was considerably worse when she returned to me.

I met the patient frequently during this period, and was called in to see the children several times, but it was not until the 17th of September that I again saw her professionally. Then she complained of dizziness, and the face and whole system seemed to have swollen more than ever, and the dusky reddish-purple of the cheeks had deepened.

She had much difficulty in swallowing, and the tongue was more swollen. She found considerable difficulty in using her jaws on account of stiffness, and finally just before her death she about gave up chewing, and I was obliged to recommend soups almost entirely for her nourishment. She was also troubled with dyspnœa on exertion, and would get very tired upon doing the smallest things. The dyspnœa was more observable when she was asleep and had no control over herself; then she had the peculiar "Cheyne-Stokes" respiration. She slept a great deal in the day-time, and the interval between the shorter and the long deep breath was often so great as to be alarming, and her mother would frequently shake her to awaken her. The face was more stupid, though her intellect was as as bright as ever. Her temperament was unchanged; the same calm and quietude. She spoke of a stuffy sensation in the nose, and upon examination I found and removed with a snare a mucous polypus, one piece of which was as large as the last phalanx of the thumb, but it did not seem to improve her speech much. There was but little hæmorrhage, and even that spontaneously stopped.

This was in the last of November, and the dyspnœa and difficulty in eating gradually increased until the 9th of December, when she died quite suddenly. During the last day or two she perspired quite freely, even though it was quite cold. She knew without my telling her that the end was near at hand, and her calmness was supreme. Her death cannot but be considered an accident in the disease, and due to the local cause, for her general condition was such that she could have lived at least many months longer, and possibly many years. Her bad dreaming had returned, and sometimes she seemed to dream when half awake and half asleep. The night before her death her husband had to light the gas before he could persuade her that she was awake. The evening of her death she appeared to enjoy herself very well, but that night she passed away quietly in her sleep, not even disturbing her husband, who was lying beside her. Her mother, who slept in the next room, became aware of her condition when she ceased snoring, which awakened her.

Unfortunately, I made no chemical or microscopical examination of the blood.

DIAGNOSIS.

As to the *diagnosis*, it would lie between chronic nephritis, pernicious anæmia, and myxœdema.

The examination of the urine would exclude *chronic nephritis;* besides, the general œdema was not of that kind. It was hard, and would not pit with pressure, except at the beginning of the disease, when I think it was due to anæmia, which the iron and diuretics soon remedied. Besides, after nine years' standing one would expect to find hypertrophy of the heart, which was not present.

As to *pernicious anæmia*, it is unfortunate that there was no examination of the blood, which would have excluded this; there was no appearance of that intense anæmia in the facies; on the contrary, a flush in the cheeks; the long duration would be against it. There were no hæmorrhages; indeed, wounds healed very well. The œdema was not that of a general anasarca. There were no paroxysms of fever, but, on the contrary, rather a constant lower temperature than normal.

We have left that strange disease, *myxœdema*, all of the characteristic signs of which were present. Indeed, the description of Dr. Drewit's case[1] would correspond to my own almost exactly, as did also that of Dr. James Allan[2] and Dr. Edes's first case: They were all women; the duration of the disease; the mental strain, shock, or hardship; the rapid growth from slight to large, fleshy women; slow, languid motion; fear in going about alone; the even disposition, never irritable; chilliness even in summer; absence of perspiration; partial loss of taste, sight, and hearing; the round, fat face; the swollen, translucent, wax-like skin; the broad nose, thick, coarse, purple lips; the dusky, reddish-purple cheeks; the eyelids pendulous and transparent; the tongue pale, swollen, too large for the mouth; the abdomen enlarged, as if with fat, nowhere pitting on pressure; the universal swelling; the skin of extremities rough, hard, and scaly; no disease of the lungs, heart, liver, or kidneys; temperature lower than normal, 95° F.; urine of low specific gravity, and diminished excretion of solids; no albumen nor sugar. In addition to these, my patient, among other things, showed great liability to catching cold, difficulty in swallowing, stiffness of the jaws, sleepiness, and the "Cheyne-Stokes" respiration.

ÆTIOLOGY.

The usual cause has been assigned to mental shock or great hardship, which has worn on the nervous system. This certainly was not the case in my patient.

Possibly the shock she received at sixteen, and the heavy fall between twenty and twenty-one, may have favored it, but it is highly improbable. She had an ex-

[1] As reported in British Medical Journal, December 1, 1883.
[2] British Medical Journal, February 9, 1884.

ceedingly happy home, and everything possible for her comfort.

It seems more probable that the insanity which developed in the father and the neuroses in the mother were transmitted in some unaccountable way, and became this strange disease in the child.

TREATMENT.

When I was convinced it was myxœdema instead of chronic Bright's disease, I could find no suggestions, and therefore adopted expectant treatment. I found her urine of low specific gravity and half its usual quantity and therefore gave diuretics, which brought the urine up to normal amount and increased the elimination of solids, though even then it reached only one half the normal amount. I tried bromine, digitalis, etc., but obtained the best results from simple cream-of-tartar water, one pint in twenty-four hours, which seemed also to keep her bowels in good condition. I ordered tr. ferri chloridi fifteen drops after each meal, and alternated every three or four weeks with the ferri et quiniæ citr. She certainly improved under these tonics; her catamenia became almost regular. She lost even the slight œdema over the tibiæ, the fluid in the abdomen disappeared, and the walls of the latter filled out with fat.

Besides this I used the galvanic or constant current of electricity for several weeks, but obtained no positive results from it. After a time I tried Fowler's solution of arsenic, but her stomach would not bear it. Having noticed during the first summer how much better she felt in the hottest of days, as soon as cool weather came on I used the hot-air baths under a wire cradle, carrying the temperature to even 125° F. before she would commence to perspire, which seemed to give her considerable relief and kept the skin from being so rough and hard. Sometimes I got a better effect by suspending a damp sponge under the cradle. I have spoken of her constant coryza and bronchitis; nothing seemed to allay them to any extent as long as the weather was cold and wet, and I did not care to give opium.

Under Dr. Minot's advice I used twice only a decoction of jaborandi, but it acted more on the salivary gland than it did on the skin, and made her sick.

When she returned to my care after taking Warner's Kidney Cure for six months she had lost a great deal of ground. I put her upon iron, but its virtue seemed to have gone. Then I ordered a pill containing one twentieth of a grain of strychnia three times a day. A hot-air bath twice a week was advised, but she was so weak they exhausted her a great deal. I can speak very confidently of the benefit derived from hot-air baths and the old tr. ferri chloridi. Perhaps if she could have borne jaborandi well it could have taken the place of the hot-air baths.

The chief centre of the disease was in the throat and neck, though it extended pretty well through the whole system. The immediate cause of death was evidently suffocation, and an accident.

Professor Ord describes the disease as seated in the connective tissues of the body, this being swollen and jelly-like and œdematous with mucin: death is caused by the patient being smothered in his own connective tissue.

There seems also to be a curious resemblance between myxœdema and cachexia strumipriva of Kocher, of Berne, who points out that almost a similar development of symptoms takes place when the thyroid gland has been totally removed.

By the kind invitation of Dr. R. T. Edes I have seen his recent case in the City Hospital, which certainly presented the same characteristic facial expression as my patient, only in a less degree; the eyes pendulous, nose broadened, the lips thick, large, and purple, and the same dusky reddish-purple hue of the cheeks, which gave a great semblance to health. As to the other symptoms, as Dr. Edes has said, they have not developed yet.

The post-mortem examination was made by Drs. Fitz and Whitney at three P. M. December 9, 1883. Rigor mortis present; interior of the body warm.

Skin everywhere unusually pale. Face and upper part of the neck swollen, as if œdematous, but not pitting on pressure. Lips of a pale blue tint. Legs slightly œdematous, pitting on pressure; a moderate quantity of serous fluid escaped from a cut through the skin.

Examination of the brain presented nothing abnormal.

Section through the parietes of the abdomen and thorax showed abundant subcutaneous fat tissue. The voluntary muscles wherever examined were remarkably pale.

The pericardium contained about two ounces of pale yellow fluid. The right side of the heart was distended with dark liquid blood, and the blood throughout the body was fluid. The left ventricle was contracted and empty. The valves and cavities showed nothing abnormal. The muscular substance was of a pale gray color and without microscopic evidence of any degenerative change.

Old pleural adhesions were found at the apices of the lungs. The lower lobes were injected; not œdematous. The bronchi and pulmonary vessels presented no abnormal appearance.

The organs of the mouth and neck were removed subcutaneously. The tongue was symmetrically increased in size, perhaps one half. With the exception of marked pallor of the muscle nothing abnormal was observed on section. Examination of the hardened tongue showed frequent pigmentation of the apices of the papillæ. The œsophagus presented no abnormal appearances.

Larynx small. True and false cords swollen, elastic; glottis narrowed. Section through the swollen mucous membrane showed a homogeneous, glistening, translucent surface, and the swollen tissue did not shrink in the course of twenty-four hours.

Microscopic examination gave evidence of an occasional fatty degeneration of the fibres of the thyro-arytenoid muscle. The sub-mucous tissue of the tongue and larynx gave the reaction of mucin. The larynx was hardened in alcohol, and numerous sections were made through the epiglottis and vocal cords. The results of their examination were for the most part negative. A swelling of the perineurium of a nerve trunk in a vocal cord was noticed.

The thyroid body was so injured in the removal of the cervical organs that an accurate determination of its size could not be made. Otherwise its appearances were not abnormal.

Spleen of normal size, firm, dark red. Details of structure distinct.

Kidneys firm, deeply injected. The surface of the lower portion of the right kidney showed several super

ficial scars. The structure of the kidneys in general presented nothing abnormal on microscopical examination. Bladder contracted; its wall showed nothing abnormal.

Uterus nearly doubled in size; flaccid in region of the internal os. Ovaries large, with numerous dropsical follicles.

Liver large, deeply injected; nothing abnormal observed on section or with the microscope. Pancreas normal.

Stomach empty; its wall presented no abnormal appearances. Lacteals of upper part of small intestine injected. Large intestine greatly distended with gas.

Diagnosis. Enlargement of tongue. Myx(?)œdema of face, neck, and larynx. Vascular engorgement of spleen, kidneys, and liver. Hyperplasia of uterus.

The cause of death was evidently suffocation from swelling of the larynx. The submucous tissue of the latter presented the pale, homogeneous, translucent appearance of ordinary œdema, but differed in its elastic resistance to pressure. The swelling of the cords was regarded as a myxœdema of the larynx. This view is based not only upon the appearance of the swollen tissue but also upon the absence of shrinkage on exposure to the air after a lapse of twenty-four hours.

The determination of the presence of mucin was not regarded as of diagnostic importance, since the intimate connection between the mucous membrane and submucous tissue readily permitted the presence of an apparent excess of this constituent in the removal of fragments for examination.

It is to be regretted that the conditions of the autopsy were such as to prevent a thorough examination of the skin of the neck and face.

A TYPHOID EPIDEMIC AT THE "NORTH END" (BOSTON).[1]

BY W. N. BULLARD, M. D.

I DESIRE at this time merely to give a short description of an epidemic of typhoid fever, which occurred during last autumn and winter at the North End, and which was especially noteworthy from its being so closely confined to the inhabitants of two, or at the most three, houses, and from the fact that in those families which were attacked so few members escaped the disease. In spite of diligent investigation I have not yet been able to satisfy myself in all respects in regard to the origin of the disease and the method of its propagation, but certain conclusions have been arrived at. All the houses were carefully examined many times by the officers of the Board of Health, whose reports I will present later. The instructions of the Board of Health in regard to disinfecting were faithfully carried out, and in most of the later cases extra precautions were used.

HOUSE I.

On the 12th of October, 1883, I was called to a child (boy) of seven years in the family A, living on the ground floor of this house. He was ill with a typical case of typhoid fever, which went through a regular course, and I saw the child every day until his recovery. There had already been a number of cases of sickness in this house, and three persons had died here since the preceding July. The first of these was the mother of the child, aged twenty-eight, who died July 28th. She was attended by irregular practitioners, and the diagnosis in her case was uncertain. The second was the child's aunt, thirty-two years old, living with the family on the ground floor, who died some time in September; and the third was a woman who lived on the second floor (that is, two flights up), the mother of a large family. This family (B) had at the time I was called removed from the house, but we shall hear of them again hereafter. Both these latter women were seen by regular practitioners, and in both cases the diagnosis of typhoid fever was made. In addition to these fatal cases three children in family A had been ill since the summer, but it is doubtful with what disease.

Thus when called to this house there had already been two deaths in the family on the ground floor since the preceding July, one of which at least was from typhoid fever, and one death in family B on the second floor. In addition to this, three children in the first family had been ill. The child I saw recovered in two weeks after a mild attack, but on the 13th of November, just a month from the time when he was taken ill, another child, a girl three years old, was attacked. In her case the disease was very light and she recovered perfectly.

As I have before said the family B had moved out of the house some time in October, and their rooms were occupied by a large family, most of whom had only lately (within three months) come from Ireland. This family consisted, when they moved into the house, of the mother and six children (five girls and a boy), an aunt, and a cousin (a young fellow who left the house shortly afterwards). The family, or most of them, had previously lived in a house in Foster Street in which there had not been any cases of fever, nor were there any there subsequently. On the 30th of November, about two weeks after the second child in family A was taken ill, I was summoned to this family. One of the children, a girl of thirteen, was then sick with typhoid. Exactly two weeks later the mother, aged forty, and a daughter of seventeen, were taken ill, and within three days thereafter a son (twenty) and a third daughter (eleven). On the 30th of December, again in two weeks, the fourth daughter was attacked with typhoid, and on January 23d the fifth and last. The only members of the family who escaped were the aunt, a woman of about thirty-five, and the cousin, who left the house shortly after the first child in this family was attacked. In the family on the ground floor the two adult men and the grandmother alone escaped. (It is possible that some of the children in this family did not have typhoid.) The family on the first floor consisted only of adults, a man and his wife, and were not affected.

In connection with this house, I should say that on the 3d of January a man of twenty-one was attacked with typhoid fever in the house in the rear of the one we have been considering. He was sent immediately to the Massachusetts General Hospital, where he recovered, and there were no more cases in that house.

HOUSE II.

(1.) This house, like the previous one, was on —— Street, and separated by only one house from House I. On the 26th of October, that is, about a

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, May 14, 1884.

fortnight after my first case in House I., I was called to the family on the first floor (one flight up) of the house, family D. The family were cousins of family A, and consisted of husband and wife, six children, and a young man, nephew or cousin. At this time the husband, aged forty, and three children, fourteen, eight, and six years old respectively, were ill. They all presented typical symptoms of typhoid fever, the man's case being a severe one. Again, about fifteen days after, that is, on the 12th of November, another child, eleven years old, was taken ill, and the next day the fifth child (five); one week later the young man, twenty-one years old. All these cases were treated at home, and all recovered. Of the whole family of nine persons only two, the mother and the baby, were unaffected.

(2.) At the same time that this family were so ill (about the 1st of November) the family above them, that is, on the second floor, was attacked. This family was made up of four persons, husband, wife, and two grown-up sons. The wife, aged sixty, was first taken ill and died. The son, twenty-two years of age, had typhoid shortly afterwards, and was sent to the hospital, where he recovered. These cases were not under my care, but were seen by a regular physician.

(3.) On the ground floor of this house lived an Italian barber with his family (wife and child). He moved away from the house about the 1st of November; was taken ill in his new residence on Endicott Street on the 21st of November; was sent to the City Hospital and recovered. His wife and child were not affected.

HOUSE III.

(1.) We will now return to the family B, who had formerly occupied the second floor of House I., but who, after the death of the wife, had removed. They took the ground floor of this house (House III.), which was several blocks distant from their previous residence. On the 7th of September a woman had been taken ill with typhoid fever, and had subsequently died in this house. Since then there had been no cases of sickness in the house. About a fortnight after the entrance of family B into this house, namely, on the 16th of October, I was summoned to see a sick boy (eleven) in this family (B). He was found to have typhoid fever, and the disease ran the ordinary course, ending in recovery. About a month later I found the father, a man of forty-three, a worker in the gas house, and the other three children, all boys, aged respectively five, six, and eight years, ill with the same disease. They were all sent immediately to the hospitals. A week later the hired woman, who had cared for the children, and washed their clothes, was also attacked. Thus in the family, consisting of husband, wife, and four children, every member had typhoid fever, and also the hired servant who lived with them a part of the time. This was, perhaps, the most striking evidence in favor of the contagiousness of the fever.

(2.) One flight above family B, in House III., lived a man and his wife with two young children, one a baby. On the 9th of November, that is, while those below were ill, the oldest child, a boy of five, was seized with the fever. His case was a typical light one, and he recovered well. On the 24th of November, just as he was thoroughly convalescent, his father, a man of thirty-two, was attacked. In his case the fever was severe, as he had been addicted to the use of stimulants, but he also recovered so as to be nearly well by the time that his wife, a woman of twenty-eight, took the disease (December 21st). She died in the hospital. Two or three days after the mother had become seriously ill the baby died, but probably not of typhoid. In this family of four, three were affected with the disease, and only the baby escaped. The baby's grandfather also lived in this house, but not in the same rooms. He died also suddenly about the 15th of December, but probably not of typhoid.

(3.) On the same floor as the last family was a family consisting of father, mother, baby, and, possibly, another child. They moved to another house temporarily about the middle of November, but were obliged to return again on account of sickness in their own family. None of this family had the fever.

TYPHOID FEVER.

HOUSE I.

Family.	Person.	Age.	Date.	Result.
A.	Mother.	28	July 28th.	D.
	Aunt.	32	September.	D.
	* Boy.	7	Oct. 12th.	R.
	* Girl.	3	Nov. 13th.	R.
B.	Mother.	–	September.	D.
C.	* Girl.	13	Nov. 30th.	R.
	* Mother.	40	Dec. 14th.	D.
	* Girl.	17	Dec. 14th.	H.
	* Boy.	20	Dec. 16th.	H. R.
	* Girl.	11	Dec. 17th.	R.
	* Girl.	18	Dec. 3 th.	H.
	* Girl.	18	Jan. 23d.	H.
		House in rear.		
	* Man.	21	Jan. 3d.	H. R.

HOUSE II.

Family.	Person.	Age.	Date.	Result.
D.	* Father.	40	Oct. 26th.	R.
	* Girl.	8	Oct. 26th.	R.
First Floor.	* Girl.	14	Oct. 26th.	R.
	* Girl.	6	Oct. 26th.	R.
	* Boy.	11	Nov. 12th.	R.
	* Boy.	5	Nov. 13th.	R.
	* Man.	21	Nov. 20th.	R.
Second Floor.	Mother.	60	October.	D
	Son.	22	October.	H. R.
Ground Floor.	* Man.[1]	35	Nov. 21st.	H. R.

HOUSE III.

Family.	Person.	Age.	Date.	Result.
	Woman.	34	Sept. 7th.	D.
B.[2]	* Boy.	11	Oct. 16th.	R.
	* Boy.	5	Nov. 12th.	H. R.
	* Boy.	8	Nov. 12th.	H. R.
	* Boy.	6	Nov. 12th.	H.
	* Father.	43	Nov. 12th.	H. D.
	* Serv't, F.	44	Nov. 20th.	H. R.
E.	* Boy.	5	Nov. 9th.	R.
	* Father.	32	Nov. 24th.	R.
	* Mother.	28	Dec. 21st.	H. D.
		House adjoining.		
	* Woman.	24	Dec. 31st.	H. D.
	Woman.	28	Dec. 31st.	R

* Denotes that the patient was under my care for the whole or a part of the period of sickness. D = died. R = recovered. H = sent to hospital.

[1] Removed from house about November 1st.

[2] Removed here from House. I.

(4.) In the family where the husband and wife were taken ill in succession [see (2) above], the wife was left for a time without proper attendance. One of the neighbors consequently, living in the next house, came in once or twice a day for two or three days to render her what assistance was in her power. About ten days afterwards both she and another woman living in her house were taken ill with the fever. Of these patients one died and one recovered.

To resume, in this house, containing three families, numbering in all fourteen or fifteen people, there were eleven dwelling in the house the whole time. Of these eleven, nine were attacked with the fever, and the two others both died of other troubles while their relatives were still ill. Those persons who were in the house only a portion of the time escaped, but two persons were attacked in the next house in which there had been no fever previously.

As a total, then, in these three houses we have thirty cases of typhoid fever, and if we add one case which was taken ill just after leaving one of these houses, and three cases in the adjoining houses, we have in the whole thirty-four. Out of these, twenty-eight were under my care for either the whole or a part of the time. The total number of cases under my care between October 12, 1883, and January 23, 1884, inclusive, at which dates the first and last of the cases in the houses under consideration were noted, was forty-five, leaving seventeen cases in the North End not included in the cases mentioned. But of these seventeen, four cases were in all probability connected with those described, three being in the family of a woman who had washed clothes for family B, and the fourth case being a girl of twenty-two, a cousin of family D. Out of forty-five cases of typhoid fever under my care there were, therefore, only thirteen in which no connection with these houses could be traced.

Out of sixty-seven cases, all that were reported from this portion of the North End within this period, we find but twenty-four not plainly connected with one of these houses.

Such an epidemic as this seems to me to point very clearly to the contagiousness of typhoid fever, particularly in the case of those naturally disposed to it. There can be no doubt but that, as Pfeiffer has lately pointed out in the *Berl. klin. Wochenschrift*, certain families possess a special immunity in regard to this disease, while in others perhaps there is a certain predisposition towards it. In these houses there were two families which entirely escaped, one of which, however, was away from the house a portion of the time, and the other consisted only of adults. There was one family in which there was only one case, but this family had already removed from the house when this case occurred. There was one family (all adults) in which there were two cases, one in which there were three, one in which there were four, and three in which there were seven.

As to the cause or origin of this epidemic, I have at the present moment nothing to say, but if any positive conclusions can be drawn from our investigations I shall hope to bring them to your notice at some future time. I will, however, say a word in regard to some of the ways in which this may have spread. In all these cases, except perhaps the very first, precautions were taken in regard to the water-closets or vaults and the excreta of patients. The Board of Health was of course informed of every case as it occurred, and examined the houses repeatedly, with the results to be given. In House I. the water-closet was outside and apart from the house.

In two at least of these cases the disease seems to have been obtained from washing the clothes of patients. This was probably the case with the servant in family B, and very possibly also in the case of the family who likewise had the fever after the mother had washed for one of these families. In the latter, however, it was not the mother who had the fever first, but one of the children.

(In a Portuguese family, which had the fever a little later in another part of —— Street, the disease in a young girl, the last of the family who had it, seemed directly traceable to her having washed the clothes of those ill previously.)

In none of these cases could the patient be isolated from the rest of the family. At the most there were only two sleeping rooms and frequently only one.

Before closing, I desire to express my thanks to the Board of Health of the city of Boston for their kindness and courtesy in permitting me to make use of their records and rendering me all the assistance in their power.

The conclusions to be drawn from this epidemic seem to me to be —

(1.) That we cannot be too careful in using every reasonable means to prevent the spread of typhoid fever, and not confine ourselves exclusively to care in regard to the excreta.

(2.) That although in ordinary cases typhoid fever is not an extremely contagious or infective disease, yet that under certain conditions at present not well understood it may become so.

(3.) That special attention should be paid to the washing of the clothes of patients, more especially of any which may be stained or soiled by their excreta.

(4.) That great care should be taken to disinfect the chamber vessel or pail used by the patient, and that no other member of the family should be allowed to use it under any conditions.

Reports of the Board of Health.

HOUSE I.

In March, 1883, foul and offensive vault and filthy cellar. Found in good condition April 30, 1883. Since then nothing wrong could be detected.

HOUSE II.

Nothing wrong discovered at any time.

HOUSE III.

May 24, 1883. An offensive and defective vault, also a defective waste conductor in passage-way under house. The waste water runs into the passage-way.

July 23d. Now in fair condition. Do not think there is sufficient cause for further action.

November 14th. Drainage defective. Traps needed to sinks. Vault in fair condition. Drain open in passage-way under house at foot of waste conductor.

December 5th. Nothing done.

January 1, 1884. Work not yet begun.

January 10th. Drainage defective. Traps supplied to sinks to-day. Vault offensive. Odors from vault and open drain in passage-way under house. There is general want of cleanliness in the house.

April 16th. Drain in passage-way obstructed. Water backs into basement.

HOUSE ADJOINING HOUSE III.

January 3d. The waste pipes from sinks empty into defective wooden conductors, which should be removed and tight pipes with traps put in. An apron should be put in under the privy seats to prevent the filth from lodging on the sills, and the vault should be deodorized.

February 16th. All right.

REPORT ON OBSTETRICS.

BY C. M. GREEN, M. D.

THE INFLUENCE OF PUERPERAL EPIDEMICS ON THE TIME OF DELIVERY.

AT the meeting on November 6, 1883, of the Académie de Médecine, M. Hervieux made a communication [1] relative to the influence of puerperal epidemics on the time of delivery. It has long been known that a certain number of pregnant women are liable to contract a puerperal septicæmia, which sometimes limits itself to provoking premature labor and sometimes develops itself with all its characteristics after the premature expulsion of the fœtus; but these cases have always been considered as exceptional. In the opinion of Hervieux, on the contrary, it is the exception for a pregnant woman to live in an infected place without being herself infected: he has been led to this conclusion by observations made at the Paris Maternité during more than twelve years.

The puerperal poison acts here like other poisons, and it is known that toxic maladies which affect pregnant women do not always act on the mother and on the fœtus in the same way, variola for example. In his treatise on Abortion, M. Garimond has given infection and contagion as the probable causes of miscarriage in many cases, without giving any clinical demonstration in support of his opinion. This clinical evidence M. Hervieux has now presented to the Academy. In his opinion, the more a pregnant woman lives in an infected place, the more liable is she to premature delivery: Hervieux therefore believes that in times of puerperal epidemics every maternity should be closed to pregnant women, and that even when there is no epidemic the entrance to hospital should be deferred until the woman is as near as possible to full term.

FORCEPS IN BREECH PRESENTATIONS.

Dr. Truzzi [2] believes that in cases of impaction of the breech in the upper or middle parts of the pelvic cavity, when a hip has not yet rotated to the pubic arch and the speedy extraction of the fœtus is necessary, it is safer to resort to forceps, when traction with the fingers fails, than to attempt extraction with the blunt hook or fillet. He thinks it is safer and easier to apply the forceps to the sides of the fœtal pelvis than to the sacrum and an opposing thigh; as, when applied in the latter way, the forceps are more likely to slip and to injure the abdomen or its contained organs. The iliac bones are elastic at this period and well protected by soft parts; so that even if the amount of compression is somewhat excessive, Truzzi believes it is almost impossible to injure the fœtal pelvis. The forceps blades are passed so that the tips extend above the iliac crests: when traction is made the tips of the blades bury themselves slightly in the parietes and obtain a firm hold over the innominate bones. The liver is above reach and the intestines from their great mobility easily elude compression. A folded towel should be placed between the handles when otherwise the compression would be too great. Truzzi has never seen the forceps slip when applied in the manner described to sacro-anterior positions.

PERITONITIS DEVELOPED DURING PREGNANCY.

Megrat [3] has collected thirteen cases of peritonitis developed during pregnancy, seven of which were observed by himself, and has described at length the ætiology, course and treatment of the affection, and its influence on the course of pregnancy and on the life of mother and fœtus.

Peritonitis in pregnancy is quite rare, at least attention has been called to it hitherto only by Schröder and Scanzoni. Of the thirteen mothers seven died: only two went to full term, the others aborted in the fifth, sixth, seventh, and eighth months. Of twelve embryos ten perished, partly on account of the peritonitis, partly by abortion.

Regarding the ætiology of the affection, the efficient cause is not always disclosed by the autopsy: there may be ruptures of the tubes, or rupture or inflammation of complicating ovarian cysts. There may be circumscribed foci of inflammation in the gravid uterus, with purulent softening and perforation into the peritoneal cavity: extension outward of the inflammatory process of an enteritis, and finally "taking cold" are mentioned as further causes. The severity of the affection depends upon its cause. If on account of rupture general peritonitis arises, the prognosis is very bad and death may occur in a few hours; if the peritonitis remains circumscribed, the prognosis is naturally more favorable.

As regards the symptoms, they are those usually characteristic of peritonitis, — extreme abdominal pain, tympanites, vomiting, collapse, and diarrhœa or constipation. Therapeutically Megrat employed cold, opiates, abstraction of blood, mercurial inunction, quinine, and carbolic acid in pill form.

Peritonitis appears in general to exercise a deleterious influence on the continuance of pregnancy, and on the other hand the complicating pregnancy aggravates peritonitis to a considerable degree. After the emptying of the uterus a sudden and considerable improvement of the inflammation was observed. The influence on peritonitis of the expulsive efforts of the uterus is a various one: on the one hand they appear to increase the inflammation; on the other, after the expulsion of the fœtus, there is an improvement in the symptoms. As a result of his observations Megrat cannot express himself as absolutely in favor of rapid, artificial termination of the pregnancy, since the result may be directly fatal.

THE USE OF IODOFORM SUPPOSITORIES FOR INTRA-UTERINE TREATMENT IN THE PUERPERIUM.

Ehrendorfer, assistant in Professor Späth's clinic in Vienna, in a recent paper,[4] advocates the use of iodoform suppositories, in preference to other methods

[1] Archives Générales de Médecine, December, 1883.
[2] Gazz. Med. Ital. Lombardia, Aug. 4–18, 1883, and the London Medical Record, Jan. 15, 1884
[3] Annales de Gynécologie, No. 10, 1883, and Centralblatt für die Medicinischen Wissenschaften, No. 10, 1884.
[4] Archiv für Gynäkologie, Band xxii., Heft 1.

of administration, in cases which require, for prophylaxis or otherwise, intra-uterine antiseptic treatment in the puerperium. When used in the form of a solution, the greater part of the iodoform soon flows out of the puerperal uterus and no lasting effect is obtained: if the drug is applied by insufflation, Ehrendorfer believes there is danger from the introduction of air: by the use of suppositories this latter danger is avoided and the endometrium is not irritated by the introduction of an intra-uterine tube. Ehrendorfer's method of using iodoform possesses one very great advantage over the customary intra-uterine treatment with carbolic acid, namely, that the patient is much less frequently disturbed, as the suppository melts slowly and its effects are therefore more lasting: in cases where there are tears of the vagina and perinæum, which have perhaps required the introduction of sutures, this is an advantage of some importance.

Regarding the composition of the suppositories, Ehrendorfer believes that oil and cacao-butter are objectionable, since they are liable to become rancid and irritating: he therefore uses gum-arabic, glycerine, and starch in equal parts as the excipient mass, his formula being

Iodoformi pulv.	20.0
Gummi Arabici	
Glycerini	
Amyli puri	ää 2.0

Ft. suppos. no. 3, longit. cm. 5-6.

Each suppository contains, therefore, a little over ninety grains of pure iodoform; but Ehrendorfer has never observed any poisonous effects from the use of as much as one hundred and fifty grains. Before the insertion of a suppository the uterus should be washed with an aseptic fluid: the suppository may then be introduced with a dressing forceps.

THE INFLUENCE OF AGE ON THE LABOR OF PRIMIPARÆ.

Kleinwächter has studied this subject very thoroughly, not solely with reference to the length of labor, but with a view to determining the relative liability of primiparæ of various ages to antecedent menstrual disturbances, to the various accidental complications of pregnancy and to puerperal disease. He has also investigated the relative necessity of instrumental interference, relative morbidity and mortality, the liability to abortion, and the influence of the mother's age on the sex and weight of children. The material for study Kleinwächter found in the records of 920 cases of primiparæ in his clinic at Innsbruck. These cases he divided into three groups, namely,—

I.	16–19 years of age:	111 cases.
II.	20–29 years of age:	694 cases.
III.	30–41 years of age:	115 cases.

These groups he designated as the young, the middle-aged, and the old, respectively. From his study of these cases Kleinwächter draws, among others, the following conclusions:

(1.) Accidental complications, which have nothing to do with pregnancy, occur least often in the youngest primiparæ and most frequently in the old.

(2.) Ailments attributable to pregnancy are observed most frequently in the old and next most frequently in the young.

(3.) Hæmorrhages in the course of pregnancy occur most frequently in the young and least frequently in the old.

(4.) The duration of labor is most frequently abnormally protracted in the old: in this respect the young stand next to the old.

(5.) Inefficient pains, on account of which the duration of labor is abnormally protracted, are least often observed in primiparæ in the bloom of their sexual life, i. e. from 20–29, and most frequently in the old.

(6.) Therefore forceps must be used most frequently in the old and least often in the middle-aged.

(7.) The lengthening of the labor of primiparæ with the increase of age occurs chiefly in the first stage: the second stage is scarcely affected by differences of age: the third stage is not at all affected.

(8.) The mortality per cent. after forceps operations on primiparæ rises parallel with the increase in age.

(9.) The older the primipara, the greater is the danger of perinæal laceration.

(10.) The older the primipara, the more likely a post-partum hæmorrhage, although the frequency of hæmorrhage is by no means so great as hitherto supposed.

(11.) With increase of age increases the disposition of primiparæ to affections of the kidneys.

(12.) The frequency of œdema without kidney disease also increases with the age.

(13.) The older the primipara, the less the danger of mastitis, and the less also the likelihood of her ability to suckle.

(14.) The old most frequently, the middle-aged least frequently, sicken and die of puerperal fever: the same is true of puerperal mania.

(15.) The morbidity and mortality per cent. is highest in the old and lowest in those from 20 to 29 years of age.

(16.) Spontaneous premature labor occurs very frequently in old primiparæ, and least often in the middle-aged.

(17.) With increase of age the frequency of abnormal positions of the fœtus increases.

(18.) The older the primipara is, the more likely is she to bear a boy, except only those from 20 to 21 years of age, who bear more girls than boys.

(19.) Analogous to the discovery made by Hecker and confirmed by Wernich, that first-born children are heavier and longer the older the mothers are, is the fact that the umbilical cord of the first-born of old mothers falls off the earliest, and that of the first-born of the youngest mothers the latest.

(20.) The liability to twin pregnancy in primiparæ increases with their age.

(21.) With increase of age in primiparæ the frequency of bearing deformed children diminishes.

(22.) The mortality per cent. of first-born children increases with the mothers' age: among the oldest primiparæ the fœtal mortality reaches a not inconsiderable height.

[1] Zeitschrift für Geburtshülfe und Gynäkologie, Band x., Heft 1.

—Some of those who are horrified at vivisection, but look upon hunting and fishing with complacency, may read with profit these words of Pasteur: "Never have I had the courage to kill a bird in hunting; but when experiments are concerned no scruple stops me. Science has the right to invoke the supremacy of the end."

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M. D., SECRETARY.

MAY 14, 1884. Meeting called to order at eight o'clock. DR. R. T. EDES in the chair.

The SECRETARY read an invitation to the Society to visit the Institute of Technology May 15th to listen to a description of the new system of heating and ventilation which has recently been introduced there, and to inspect the Rogers Building, where the system would be in operation.

The first paper was by DR. E. G. WEST, entitled

A CASE OF MYXŒDEMA, WITH AUTOPSY.[1]

Dr. West remarked that no pathological changes were observed macroscopically in the tissues of the brain, in the organs of the chest or abdomen. The blood presented a marked degree of fluidity, due, doubtless, to the accident which killed the patient, and appeared the same as in ordinary cases of suffocation or strangulation. The muscular tissues were everywhere very pale, almost white, so that these structures resembled the flesh of veal.

DR. EDES stated that the paleness in color of the muscular tissues was not due to fatty degeneration of the fibres either in the voluntary muscles or in the heart. There was slight serous (ordinary) œdema of the limbs, and a small degree of pitting could be noticed after prolonged pressure. The mucous œdema was still present in the face and members after death, and was especially developed in and about the folds of the larynx. Here the mucous membrane was full and baggy, and no doubt was the immediate cause of death. At the autopsy these portions of larynx were incised, and after some hours no reduction in size or collapse of œdema could be observed. Under the tongue the tissues were especially swollen and œdematous from the accumulation of mucin.

DR. WHITE stated that the case seemed to be a typical one in all respects. He questioned the accuracy of the generally received opinion that the disease has not been observed in the male sex; and the utility of attempting to stimulate the action of the sweat glands, as they had often been found atrophied in the changes which the skin undergoes in advanced myxœdema. He doubted, too, the correctness of the statement that the disease was always or generally preceded by a mental or nervous shock. It appears to be more prevalent in some countries than in others, as seven cases were exhibited at the last meeting of the International Medical Congress in London, whereas a recent statement had been made that no case had as yet been observed in Vienna. Two cases had come under his own observation in Boston during the last five years.

DR. EDES remarked that the reader was not quite correct in supposing this to be the first case in this country followed by an autopsy.

Dr. Elizabeth M. Cushier had reported a case, with a very careful autopsy, in the *Archives of Medicine*, viii., 1882, December. The cutaneous and subcutaneous tissues had undergone characteristic changes, and in addition there was well-marked degeneration of the spinal cord.

In reference to the remark made by Dr. White that no case of this kind had been seen in Vienna, it would be interesting to observe its relative prevalence in different nationalities in this country. It is certainly not confined to the British races. One patient seen by Dr. Edes was of Norwegian birth.

Mental shock is not a universal accompaniment or forerunner of myxœdema. In one special case no such accident could be remembered. In another case which has lasted fifteen years, and is still living, no mental shock has ever been known to occur. In this patient the hands are immensely swollen, and are unsightly and disfigured both in form and color, and the disease is evidently slowly but certainly progressing toward a fatal termination.

DR. E. T. WILLIAMS asked if any amelioration was noticed after the use of diuretics.

DR. WEST replied that the serous œdema of the lower extremities entirely disappeared, and the patient experienced a great degree of relief from the heaviness and fullness which this had occasioned.

DR. PRINCE asked if any increase in the fibrous tissue of the parenchymatous organs was noticeable, and stated that Dr. John Harley had observed this in all the visceral organs, and had also made the assertion that in these cases there was well marked and frequently quite extensive degeneration of the ganglia of the sympathetic nervous system.

DR. EDES remarked that although attention has been directed to these cases only within a few years there is no reason to suppose that the disease is one of recent origin. Cases have doubtless existed in the past, but have been confounded with other diseases. It is not necessarily so rare a disease as it would seem to be because the majority of cases would undoubtedly be mistaken for some affection of the liver or kidneys. In point of duration, course of symptoms, and termination, however, there is very little similarity with the progress of either of these diseases.

The second paper was by DR. W. N. BULLARD, upon

AN EPIDEMIC OF TYPHOID AT THE NORTH END.[2]

DR. PRINCE opened the discussion as follows: —

The epidemic which has been so carefully studied and reported by Dr. Bullard is very valuable from the fact that it is one which shows almost conclusively the communicability of this disease under certain conditions. The difficulty with most epidemics is that it is generally impossible to exclude the possibility of all the cases having contracted the disease from the same source, but in the epidemic just reported it can hardly be believed that the inmates of houses No. II. and III., at least, could have contracted the disease otherwise than on the theory of contagion. It is on the evidence of such epidemics that we rely for our belief in the communicability of the disease. There is one fact which is always referred to as evidence against the contagiousness of typhoid, to which, it seems to me, too much prominence has been given, and that is, the fact that the disease is rarely communicated from one patient to another or to attendants in hospitals. I am unable to see any reason why much weight should be attached to this. For let us suppose that it was proven by experimental evidence, as I believe it has been by clinical evidence, that the stools contain the

[1] See page 49 of this number of the JOURNAL.

[2] See page 53 of this number of the JOURNAL.

poison, that the germs have been isolated and shown to be capable of successful inoculation in a healthy person, how could we expect that under the conditions by which a patient is surrounded in a hospital the stools would be capable of infecting others in the hospital? I hold not. In the first place the poison is mixed with semi-liquid matter, and consequently prevented from impregnating the atmosphere. The vessels are quickly emptied and washed before the fæces become dry, etc., etc. Let, however, the stools become dry and pulverized, and a medium of contagion immediately is furnished. The atmosphere may take up the poison in this dry, dust-like form, and infection result. It is these conditions that exist in tenement and other houses, where the facilities for caring for the excrement are insufficient. It may be that a secondary fermentative process is necessary for the discharges to become poisonous, but this theory is neither absolutely necessary to explain the facts thus far known nor is the fact yet established, though it may prove to be true. It is upon the study of epidemics that we rely to show the poisonous nature of the stools of typhoid patients and the possibility of contagion. The evidence furnished thus far by experiments on animals has been unsatisfactory.

It may not be out of place here to mention the results of some experiments which Dr. Bullard and myself have conducted during the past winter, with a view to determining this point by direct inoculation. The animals chosen were rabbits, and the experiments divided into two sets.

For the first we obtained some liquid stools from a patient ill with typhoid. The stools were strained through coarse cotton cloth, and about fifteen minims subcutaneously injected into each of five rabbits. In all the animals fever developed, but no diarrhœa or any other definite symptoms. The animals were killed at the end of from three to five weeks. No lesion of the intestines or of any other organs was found. One animal died the second day after inoculation. Unfortunately the body was thrown away by accident before it could be examined. The animal could not, however, have died of typhoid.

For the second set, the tissue about the edges and base of several intestinal ulcers from a patient who had died of typhoid fever was obtained through the kindness of Dr. Gannett, who made the autopsy. The lesions of the intestines were very marked and typical. The tissue thus obtained was cut into very fine pieces, macerated and bruised in about a teaspoonful of water till the tissue became white and mere pulp, then strained through coarse cloth and injected, in divided portions, under the skin of four rabbits. Fever developed, though not very high. No other symptoms. The rabbits were killed at varying periods. No lesions found after death. The results of these experiments were accordingly negative, and correspond with those obtained by other experimenters.

Küchenmeister, as long ago as 1850, reported an epidemic amongst rabbits which he regarded as probably typhoid fever. The principal anatomical changes which he found were infiltration of Peyer's patches, swelling of the mesenteric glands, and enlargement of the spleen, but no ulceration of the patches.

These changes resembled those found by Birch-Hirschfeld as a result of the infection of rabbits with typhoid stools. Birch-Hirschfeld made four different sets of experiments: —

In the first large quantities of typhoid stools were injected subcutaneously, and though the rabbits rapidly became sick, had fever, and when the quantity injected was particularly large, died, no lesions were found in the intestine.

Second. Blood from a person who had died of typhoid was injected subcutaneously. No alterations were found in the intestines.

Third. Typhoid discharges were introduced by the mouth. The result varied according to the quantity given. When the quantity was small, some of the rabbits remained perfectly well, others had fever, diarrhœa, and lost flesh, nine died. Those killed had slight swelling of Peyer's patches, but no swelling of the spleen. When large quantities were given the animals exhibited high fever, considerable emaciation, marked diarrhœa; in some cases the fæces were yellow, bad smelling, and pasty. In those which died there was found more or less pronounced swelling of the follicles, especially in the neighborhood of the ileo-cæcal valve and vermiform appendix. In two cases there was found beginning *ulceration* of a Peyer's patch. There was also found more or less swelling of the spleen, infiltration of the mesenteric glands, sometimes pneumonia. No difference was detected between the effect of fresh stools and those kept from two to six days.

Fourth. A rabbit was fed on a small quantity of the tissue from a typhoid ulcer which had been removed five hours previously from the cadaver. The animal exhibited high fever for several weeks. At the autopsy there was found *an ulcer of the size of a pea, of a Peyer's patch* situated at the ileo-cæcal valve. The surrounding tissue had a reticulated appearance, as well as that of the vermiform appendix. Beautifully reticulated appearances in the upper part of the small intestine; follicular catarrh of the cæcum and ascending colon. The other organs normal.

Although these rabbits showed some symptoms analogous to those of typhoid, the last experiment alone gave anything like positive results, and the rabbit which was the subject of this experiment was fed not on typhoid dejections, but on the tissue from typhoidal ulcers.

Bahrat later experimented on fourteen animals. In ten typhoid excreta were introduced into the stomach by means of a catheter, and in four the experiments were conducted so as to test the theory of infection through the air. The rabbits were placed over sand impregnated with typhoid dejections, over the sand was placed a layer of hay so as to prevent actual contact with the dejections. In both cases the results were negative.

Letzerich again injected four rabbits with typhoid stools. The first was killed fourteen days after the injection. The duodenum and the upper part of the small intestine were filled with turbid yellow fluid. The follicles were infiltrated. The second died twenty days after the injection. The duodenum and the small intestine were filled with the same material. The follicles of Peyer's patches were swollen and infiltrated. The third died twenty-one days after the injection. The content of the small intestine was the same. The follicles were swollen and infiltrated, in some places ulcerated. In the fourth (which died forty-eight days after the injection) the duodenum was red, the upper part of the small intestine dark red, the lower portion brown red. The content of the upper portion consisted of turbid yellow fluid; that of the lower portion

of an intensely red fluid containing fibrinous flakes' Follicles mostly ulcerated. The third and fourth had fever and diarrhœa.

Murchison fed a pig for six weeks on fresh dejections without result.

Klein fed monkeys and white mice with milk with which typhoid dejections had been mixed. Results were negative.

Motschutkoffsky tried experiments on men and animals (apes, rabbits, dogs, and cats). He made repeated and thorough inoculations from patients with typhoid and typhus fever without success. His method of inoculating or what was inoculated are not given, but with relapsing fever he employed blood, milk, sweat, urine, saliva, and excrement, and was successful (with which?).

It appears then that only two experimenters, Letzerich and Birch-Hirschfeld, have succeeded in infecting animals with any disease resembling typhoid by means of the stools, and considering the small number of animals in which positive results were obtained and the failure of all other experimenters, it may be questioned whether the disease produced in these cases was real typhoid. The question must still be considered an open one. While successful inoculation would prove the poisonous nature of typhoid stools, failure does not show the contrary. There may be several causes of failure. In the first place animals, as with cholera, may not be susceptible to typhoid. And in the second place, though typhoid stools may be poisonous at certain stages of the disease, it does not follow that they are at all stages, and there is no means of knowing which is the poisonous period, consequently any given stool may or may not contain the poison.

This latter difficulty, however, would not obtain when the tissue from a typhoid ulcer was employed for inoculation, as in our second set of experiments, which would seem to indicate that, unless some secondary fermentative process was necessary for the development of the poison, rabbits are not susceptible.

The difficulty of eliminating other forms of poisoning from the inoculation of such stuff as excrement and necrosed intestinal tissue is obvious.

DR. BLODGETT remarked that grave doubts had been justly raised against the conclusions from experiments upon animals by the inoculation of zymotic diseases, from the fact that very frequently no proper precautions have been taken to prevent the introduction of other than the desired virus, and, therefore, some other disease might be implanted at the same time, and thus either modify or entirely prevent the normal development of the desired disease. Again, in cases in which unwilling animals have been forced to swallow the dejections of typhoid fever or parts of ulcerated human intestine it would certainly not be surprising if the disgust and repugnance of the animal to this offensive procedure, together with the loss of appetite and disturbances of digestion or diarrhœa, which might very probably follow such a repulsive experiment, should occasion appearances within the alimentary canal which might in some degree resemble those of typhoid fever in man. But such results should be very cautiously received on account of the great chances of error due to the circumstances mentioned, as well, no doubt, as to other conditions which might arise from the manner more than from the matter of the experiment.

Another frequent source of fallacy in the subcutaneous injection of the products of disease is the frequent occurrence of a train of symptoms of severe character and fatal termination which bear some resemblance to the phenomena of human typhoid, but are due solely to septicæmic processes which are occasioned by the presence in the tissues of a confined animal of foul, decomposing, often necrosed, portions of another animal, namely, man, who has died from an acute infective disease which has deranged the nutrition and modified the organic character of every part of the body. The occurrence of serious disease and frequently of death from this cause is not considered strange in cases of accidental infection in man, and there would seem to be no good reason why the same thing might not take place in the lower animals under circumstances so much more dangerous than could possibly occur to man. Under these conditions we should naturally expect to find the glands everywhere enlarged, and it would occasion no surprise to find ulcerations within the bowel, which might quite probably be due to tuberculosis or some other foreign process, but to an incautious or enthusiastic experimenter might seem to indicate the successful transplantation of another of the exanthematic processes affecting the human race into the organism of an animal subjected to experimental study.

While fully recognizing the great value of experimental pathology, which is daily assuming a more important relation to human well-being, it becomes doubly necessary to guard against false appearances and erroneous conclusions.

DR. BARNES asked if the vaults were independent of the sewers or were in any way connected with them.

DR. BULLARD replied that he always supposed the vaults to be simple reservoirs for fæcal accumulations, not connecting in any manner with the sewer system. There were no water-closets, they were simply pit privies.

DR. BARNES spoke of the specific character of the poison of typhoid, and mentioned the fact that it is not alluded to as one of the prevailing diseases in China, thus indicating that the virus does not thrive equally well in all parts of the world, but seems to be restricted to certain geographical limits.

DR. EDES suggested that the susceptibility of the entire Chinese race to the disease may have been exhausted in previous ages, and that the present inhabitants of that region enjoy perfect immunity from the ravages of typhoid on account of changes in their organism or physical condition, which have produced a sufficient alteration in the tissues or organs to render them unsuited for the propagation of the typhoid germ.

On motion of DR. HENRY I. BOWDITCH a vote of thanks was tendered the Boston Society of Arts through its secretary, Professor Swaim, for the courteous invitation extended to the Section to attend the next meeting of that Society.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

C. B. NANCREDE, M. D., RECORDER.

THURSDAY evening June 12, 1884. The President, DR. TYSON, in the chair.

SARCOMA OF TESTICLE.

Presented by DR. G. DE SCHWEINITZ.

A. K., aged forty-three, a native of Germany, married, presented himself May 22d in the Surgical Dis-

pensary of the University Hospital for an opinion concerning a tumor of the left testicle, with which he was suffering. His general health had always been good until one year ago, when he first noted a beginning glandular swelling of the left testis. A short time previous to this he had suffered with gonorrhœa, which was followed by an attack of orchitis. He knew of no member of his family that had ever been afflicted with any form of morbid growth. Examination revealed a very large, somewhat pear-shaped growth of the left testicle, over which the skin was freely movable. The veins were much enlarged. The inguinal glands of the left side were also involved, and the thigh and leg of that side swollen from œdema. Above the line of Poupart's ligament both palpation and percussion revealed another mass situated in the left iliac fossa. A very unfavorable prognosis was given, and operative interference not advised. He, however, earnestly begged for the removal of the tumor of the testicle, which caused him severe dragging pain, and incommoded him in walking. The dangers of the operation and the fact that it would at best only be partially palliative were explained to him, and as he still asked for its performance the growth was removed. The case progressed very well for a few days, when he died rather suddenly. Dr. Hughes and myself made the post-mortem examination and found the following conditions: Lungs showed commencing phthisis of apex; left pleural sac occupied by a pint of serum in which floated some flakes of recent lymph. Heart normal; cavities occupied by post-mortem clots. Liver very fatty. Right kidney apparently normal. The retro-peritoneal glands were all converted into a huge sarcomatous mass, as were also the glands and tissues of the left iliac region, and from there the growth passed up to the lumbar region and surrounded, although it apparently did not greatly involve, the kidney. Upon cutting into the tumor of the testicle about a pint of bloody serum escaped from the cavity of the tunica vaginalis. The growth occupies the body of the testis, is soft and friable, in places breaking down, and the cavities thus formed filled with semi-fluid contents. The growth has burst through the tunica albuginea, thus showing the first step in the march of this morbid process up the spermatic cord into the abdominal cavity to the retro-peritoneal glands and other tissues involved by the disease.

Microscopically the tumor is a sarcoma composed of round and spindle cells, which are in relation to the remnants of connective tissue stroma. A very distinct tendency to alveolar arrangement is observable in places. It would probably be classed by some pathologists as an endothelial carcinoma or carcinomatous sarcoma.

DR. SHAKESPEARE said that the history of this case, the post-mortem finding, and the microscopic examination forcibly reminded him of the last discussion by this Society of the same subject. In this case the disease has evidently traveled along the deep lymphatics as far as the retroperitoneal lymph glands of the lumbar region. In this particular it has followed the course of systemic infection pursued by a carcinoma rather than a sarcoma. But it seems to be now well established that the well-known law governing the generalization of sarcomata meets with frequent exceptions in the case of so-called sarcoma of the testicle. Dr. De Schweinitz had spoken of the presence in this tumor of an alveolar structure, and in truth the manner in which the growth had exceeded the bounds of the testicle brings to mind at once the history of an alveolar sarcoma. The reporter had spoken of that tumor as "an endothelial sarcoma." Dr. Shakespeare objected to this use of the term "endothelial," and thought that the tumor in question would be more properly defined as "an alveolar sarcoma." He thought that the term "endothelial" was most commonly applied to carcinomata of certain kinds rather than to sarcomata, and did not think that the tumor named by Klebs "an endothelial carcinoma" differed from other genuine carcinomata in the form or nature of its cells and alveolar structure, but only in the fact that it may originate or be propagated in the lymph spaces or channels. If the term "endothelial" be insisted upon in this case, why not call the growth "an endothelial carcinoma"? This naturally raises the question of pathogenesis. We are told that the testicle is a derivative of the mesoblast. If this be true here is ground for debate as to the proper name to give a tumor of the testicle which has an alveolar structure and a clinical history analogous to that of true carcinoma. He who believes that true carcinoma never has a real connective tissue origin will not consent to call such a growth of the testicle a carcinoma unless he can satisfy himself that, by some chance, a few epithelial cells from the blastoderm have become misplaced in the process of development, and have remained here to form a nidus of a future carcinoma. Malignant tumors of the testicle seem to occupy an anomalous position. They are called sarcomata in the main, and yet, as a rule, their clinical history does not correspond to the sharp outlines which comprise this class of tumors in other localities. On the whole Dr. Shakespeare was inclined to agree with those writers who accepted in general a connective tissue origin for true carcinoma in contradistinction from the epithelial origin of true epitheliomata, and therefore saw no well grounded objection to applying the name of true "carcinoma" to those growths of the testicle which present a typical clinical history and anatomical structure of carcinoma, although they may spring from connective tissue. As bearing upon the subject of pathogenesis of carcinoma he referred to the observations of a few authors who deny the pure epithelial origin of some glandular structures, mentioning in particular the opinion of Creighton, who, after a careful and extensive series of observations on the development and involution of the mammæ, concludes that the acini of this gland are not developed from the cutaneous epithelium but are derived from the connective tissue.

ANEURISM OF THE LEFT VENTRICLE COMMUNICATING WITH THE AORTA.

Presented by W. E. HUGHES.

J. C. W., aged thirty-nine years, a ship carpenter, was admitted to the University Hospital, under the care of Dr. E. T. Bruen, March 6th. He had always worked hard, been much exposed to the weather, was a fairly temperate man, and had never had syphilis. He had had several slight attacks of articular rheumatism, but during none of these attacks had there been any symptoms referable to the heart. There was nothing of moment in the family history. Three years ago his strength, which had never been excessive, failed somewhat, and it became impossible for him to work constantly. There was with this failure of strength more or less dyspnœa on exertion, with a tendency to take cold on any slight exposure, but no

pain over the heart, and very little palpitation. Six months ago he was very much exposed, and since then has been much worse, palpitation now for the first time becoming troublesome. When first seen the slightest exertion caused the most intense dyspnœa and very annoying palpitation; his hands and feet were congested, and his lungs filled with moist râles. The apex beat of the heart was in the fifth interspace, in the nipple line, its action strong and heaving. Over the aortic cartilage could be heard a strong, blowing, double murmur. He died April 6th of gradually increasing dyspnœa, due apparently to congestion of the lungs. He had never complained of pain about the heart. There had been no œdema.

Autopsy by Dr. Barber six hours after death. Pericardium normal. Heart large; its left ventricle moderately hypertrophied and dilated; right normal. Muscular tissue apparently normal. Between the posterior leaflets of the aortic valves was an oblong opening, with smooth, rounded edges, extending a quarter of an inch above the point of juncture of the leaflets with the aorta, and one half an inch below into the wall of the left ventricle, much wider in the ventricular than in the aortic wall. The opening prevented the closure of the leaflets, holding them at least one quarter of an inch apart, and permitting free regurgitation of blood into the ventricle. The leaflets were attached along the opening, in fact, above they formed its edges. This opening led back into a cavity, about as large as a walnut, lying between the base of the aorta and the upper part of the left ventricle on the one hand, and the right auricle on the other, bulging it decidedly into both auricle and aorta. Its lining membrane was continuous with the endocardium, and was thickened and roughened, but not calcareous. The endothelium of the posterior wall of the aorta covering the projection was also somewhat thickened and roughened. Between the upper part of the sac and the aorta where the separating tissue was very thin, composed apparently of only two layers of endothelium, there was an irregular tear permitting free intercommunication between the sac and the aorta. Between this tear and the upper margin of the opening described above was a bridge of firm aortic tissue. The endothelium of the right auricle over the sac was rough and thickened. The wall of the sac was formed of connective tissue and endothelium. It contained only some recent coagula, none that were laminated. The coronary artery arose immediately above the sac but was not involved in it. The leaflets of the aortic valves were perfectly healthy; other valves normal. The endothelium of the heart showed no spots of degeneration except that mentioned in the right auricle. The aorta above the sac, as well as the coronary arteries, was not in the slightest degree atheromatous. Both sides of the heart contained some chicken-fat clots. Lungs deeply congested. Other organs normal.

ANEURISM OF THE AORTA. EMPYEMA.

Presented by W. E. HUGHES.

J. H. W., aged thirty-five years, a shoemaker, was admitted to the University Hospital under the care of Dr. E. T. Bruen, December 26, 1883. He had used alcohol decidedly to excess, but has never been much exposed to weather, and has never done any hard work. There is no history of venereal disease. There is a distinct rheumatic family history, and he himself had had, two years ago, acute articular rheumatism; since then he has had occasional fugitive pains, principally in bad weather. Fifteen months ago he caught cold, and soon after began to feel slight pains along the crest of the left ilium. The pain increased for four days when it had become almost unendurable, and extended from the left loin along the crest of the ilium into the groin. His urine was passed frequently and painlessly in small quantities, and contained no blood. The pain was ameliorated by treatment, but not wholly removed, though there was not enough to keep him from following his usual occupation; it was almost invariably aggravated by damp weather, and was not influenced by motion. Twice since then he has had paroxysms of severe pain, and each time, after taking a mixture containing oil of turpentine, urination has been frequent and painful, and the urine has contained blood. For the last two months he has had more or less stitch like pain at the base of the left chest and a hacking cough. His general health has been failing only slightly. He thinks he has lost about ten pounds of flesh. On admission his face was pinched and anxious, his breathing rapid and shallow, with intense pain at the base of the left lung. Physical examination showed friction sounds at the base of the left lung, with evidences of a small amount of fluid in the left pleural cavity, collected posteriorly. The respiratory murmur over the upper part of the left lung was not quite so distinct as that over the right. The apex beat of the heart was not ascertainable with certainty, but seemed to be a little outside the normal point. The sounds at the apex were indistinct, and synchronously with the systole was a rubbing sound, heard only during inspiration. Toward the base of the heart was developed a harsh systolic murmur, best heard over the upper bone of the sternum, conducted feebly into the carotids, and not heard posteriorly. The heart action was too strong, the whole pericardium heaving. The normal area of cardiac dullness over the upper bone of the sternum was somewhat widened.

He complained of constant dull pain running from the left loin along the crest of the ilium. Urination was normal, and the urine contained no abnormal constituents. Under the use of salicylate of sodium the pleuritic pain was quickly relieved, the lumbar pain completely disappeared after a course of alkaline diuretics. The fluid in the left pleural cavity slowly increased for a while, then remained stationary till one week before his death, when there was a rapid increase. The pleural friction sounds came and went. The friction sounds heard over the heart were even now variable, sometimes systolic, sometimes double, occasionally dependent upon the respiration and again occurring regularly with every beat of the heart. Gradually to the left of the sternum in the second and third interspaces a new centre of pulsation developed apparently distinct from the cardiac impulse, and over this area resonance was impaired. Two months after he was first seen a systolic murmur was detected about the middle of the posterior border of the left scapula distinct from the murmur heard anteriorly. Coincidentally with the development of these conditions there was a steady decrease in the amount of air passing into the left lung. There was no other pressure symptom. For a month before he died he had irregular rises of temperature with profuse perspirations and lost flesh rapidly.

April 22d Dr. Wharton introduced a tube into the

left pleural cavity through which a large amount of sero pus drained off. He died April 27th.

Autopsy, twenty-four hours after death. Body much emaciated. In the sixth interspace one inch anterior to the mid-axillary line is an opening leading directly into the left pleural cavity which is filled forward to the anterior axillary line and upward to the spine of the scapula with a sero-purulent liquid surrounded by walls covered with a pyogenic membrane. The lung occupies the remainder of the pleural cavity and is everywhere closely adherent: it is compressed, the fibrous tissue is increased, and there is slight catarrh of the bronchial mucous membrane. The pericardium is dotted with scattered patches of recent lymph and its cavity contained three ounces of flaky serum. The heart is somewhat enlarged, the valves perfectly normal. The aorta is dilated, its endothelium proliferated, roughened, and in places calcareous. Springing from the arch posterior to the origin of the left carotid and subclavian arteries is an aneurism the size of a filbert extending back into the connective tissue to the left of the trachea. At the end of the descending part of the aorta is another aneurism as large as a peach springing from the right posterior surface of the aorta eroding the anterior face of the bodies of the fifth, sixth, and seventh dorsal vertebræ, pressing toward and almost occluding the left bronchus. It has ulcerated through the wall of the bronchus, but exudation of blood has been prevented by a firm laminated clot which fills this opening. There was no pressure on the œsophagus nor on nerves. At the origin of the cœliac axis is another aneurism half as large pretty well filled with laminated clots. Kidneys and other organs healthy.

Recent Literature.

The Treatment of Backward Displacements of the Uterus and of Prolapsus Uteri by the New Method of Shortening the Round Ligaments. By WILLIAM ALEXANDER, M. D., M. Ch. Q. U. I., F. R. C. S. Eng. London: J. & A. Churchill. 1884.

The title of this book explains its purpose and scope. We confess to having taken it up with a rather strong impression that it would be difficult to commend it, but find, after reading it, that we must modify our preconceived judgment somewhat. The author refers to his ill success in treating many obstinate backward displacements and cases of prolapsus uteri by the routine methods of plastic operations on the vagina and by pessaries, and hence conceived this operation to help him out. It is simple, merely cutting down on the round ligaments before they spread out in the mons veneris, shortening them by traction, and then fastening them in their new position by sutures. The author gives the history of twenty-two cases, in all of which the operation was successful, that is, the uterus was held in its new position, and annoying symptoms were relieved. Other cases treated in the same way by other surgeons have been equally successful.

We were prepared to condemn the operation as unnecessary, and as forcibly illustrating the "*cacoëthes operandi*" which is said to be so characteristic of gynæcologists in general, and a failing of which our English brethren are only too ready to accuse Americans, and after reading what Dr. Alexander has to say we are still of that opinion as regards the majority of his cases. In the first place our experience as to the difficulty of holding the uterus in place by a pessary and the discomfort of the patient while wearing it have been totally different from that of the author. Where the uterus is not bound down by adhesions (and such cases he does not pretend to treat by this method) it is an exceptional occurrence that a suitable pessary cannot be fitted and be well borne. For the rare case where a support cannot be tolerated we can conceive this operation to be of great value.

In cases of prolapsus uteri, however, where, as a rule, there is cystocele and rectocele, consequent upon a ruptured perinæum, we should be afraid that the operation would be only palliative, and that the ligaments would again stretch. In such cases the restoration of the perinæum, or a plastic operation on the anterior wall, or both, it may be, would seem absolutely necessary to prevent a recurrence of the trouble. A sufficient length of time has not elapsed since the first operations to fairly test this point.

The author is enthusiastic, and naturally so, and would be inclined to operate without sufficient trial of more simple methods. He deserves credit, however, for the ingenious operation he has advised, and we think it deserves its place with other methods, to be used in the exceptionally obstinate case which will not yield to other forms of treatment. F. H. D.

The Hip and its Diseases. By V. P. GIBNEY, M. D. Bermingham & Co. 1884.

In stating that Dr. Gibney's work is the most important book that has appeared upon the subject there is little fear that the limits of truth are overstepped, for not only is it a valuable and useful publication, written by one who has familiarized himself with what others have written, who is an accurate and conscientious observer, and who has had for many years unsurpassed opportunities at his hospital clinic for observing this disease and its consequences, but also the subject is one which has not attracted many medical writers of weight. Many books have been written upon the diseases of joints, but the diseases of the hip-joint have been chiefly considered in monographs advocating certain methods of treatment. It is certainly a relief to find something written on the subject in a broad catholic spirit too often wanting in the enthusiast who believes that Rome is to be approached only by one road, and that all other ways lead to the Avernus of unsuccessful surgery.

Dr. Gibney justly insists on the necessity of a clear diagnosis at the outset and not of a guess on the part of the medical attendant that "trouble at the hip" exists. The pathological changes wrought by the disease are clearly stated by Dr. Gibney and well illustrated by clinical and pathological facts, and the matter of diagnosis is well treated. The chapters on treatment are perhaps less satisfactory, chiefly because Dr. Gibney in a desire to be just has been led to describe all the methods in vogue, giving to some perhaps more prominence than they deserve.

A word must be said in regard to the illustrations, for which we imagine the publishers (and not Dr. Gibney) are responsible. If we were in the state of civilization of the North American Indians perhaps some satisfaction might be derived from these blurred woodcuts, as some value is accorded to the carved figures of the Aleuts, but as Americans confessedly lead the world in wood engraving, it is simply an insult to the

medical profession to offer illustrations which indicate either that physicians are decades behind the public in matters of taste or that medical men are intellectual cormorants, and do not care how their mental food is cooked and served provided only the lump of nutrition is given them.

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PUBLIC HEALTH, PUBLIC WEALTH.

WE reproduce in another column extracts from Sir James Paget's eloquent address on the National Value of Public Health, delivered at the inauguration of the juries of the International Health Exhibition and published in the London medical journals of June 21st. Sir James never touches a subject without illuminating it, and there are few speakers or writers whose English is more attractive. It is impossible to read this address without a glow of philanthropic enthusiasm at the thought of the apparently possible realizations in health and wealth if wisdom could only be inculcated. Not the degree of wisdom which may be attainable in the future, but even that which is already in possession, and is crying aloud through public and private organizations that men may hearken. As the address points out, we are in no way more justified in indulging our fancy as to what may be done for national health in the future than by noting what has been done in the immediate past, which is strikingly illustrated by a statement made in a paper before the London Statistical Society, "that if the English death-rate should continue at the low average of the five years 1876–1880, the mean duration of male life in that country would be increased by two years, and that of female life by no less than 3.4 years as compared with the English life table; moreover among males seventy per cent., and among females sixty-five per cent., of this increased life would be lived between the ages of twenty and sixty years, or during the most useful period."

Whatever is possible in England for the amelioration of sickness and suffering and the mitigation of sorrow and waste is in a larger measure possible here in the United States, where there is less of the past to contend with and more of the present to encourage in varied climates and cheap, abundant, and accessible lands for a vastly larger population than we shall have for many years to come. And one potent auxiliary we should be able to count upon in striving for an ideal national health is a widely diffused system of popular education which, where it does more than to make the young discontented with "that station in life unto which it has pleased God to call them," should help them to find out what nature has fitted them to do, and to learn to adapt themselves more readily than the ignorant to the surroundings among which they may find themselves.

In the address the pattern healthy man is described as one who can do his work vigorously wherever and whatever it may be, and a distinctive characteristic of the best health is offered by a union of strength with a comparative indifference to the external conditions of life and a ready self-adjustment to their changes.

"He should not be deemed thoroughly healthy who is made better or worse, more or less fit for work, by every change of weather or of food; nor he who, in order that he may do his work, is bound to exact rules of living. It is good to observe rules, and to many they are absolutely necessary; but it is better to need very few besides those of moderation and cleanliness, and, observing these, to be able and willing to live and work hard in the widest variations of food, air, clothing, and all the other sustenances of life.

"And this, which is a sign of the best personal health, is essential to the best national health. For in a great nation, distributed among its people, there should be powers suited to the greatest possible variety of work. No form or depth of knowledge should be beyond the attainment of some among them; no art should be beyond its reach; it should be excellent in every form of work. And, that its various powers may have free exercise and influence in the world, it must have, besides, distributed among its people, abilities to live healthily wherever work must be or can be done.

"Herein is the essential bond between health and education. I do not know whether health or knowledge contributes most to the prosperity of a nation; but no nation can prosper which does not equally promote both; they should be deemed twin forces, for either of them without the other has only half the power for good that it should have."

This ideal of the healthy man as one equally and proportionally developed in all directions, and not as being overdeveloped in some direction at the expense of other parts of the system, is to be carefully kept in sight, that mere muscular hypertrophy be not regarded as strength nor nervous excitability as mental ability.

Thus far we may yield ourselves to the contagious enthusiasm inspired by an eloquent portrayal of the legitimate results of preventive medicine and of the cultivation of self control. But we must not forget that many years and lives were spent in the fruitless search for the philosopher's stone and the fountain of youth, and the present epidemic of cholera extending and developing itself in France, with its attendant unreasoning panics, shows only too clearly how far the civilized world is from the position which existing knowledge demands that it should occupy.

Perhaps the demonstration of the weak spots in the world's armor against disease will lead all the quicker to the wished-for result.

SPAYING COWS AND PURE MILK.

THE question of securing pure milk at a moderate price is at once so important and so difficult a one, especially in large cities, that any suggestions offering a reasonable probability for simplifying it are likely to attract attention and enforce consideration in proportion to their merits.

A paper read last winter by Mr. L. F. Abbott before a Section of the Suffolk District Medical Society, in Boston, and published in this JOURNAL, page 317, on The Milk Supply of Boston, and the Benefit to be Derived from Spaying Cows, has evidently attracted a good many readers who have been struck with the writer's account of his own experience, and with the conclusions which he draws.

As a rule due credit is given Mr. Abbott for his experiments, though a recent article on Ovariotomy in Cows, in a London medical contemporary, scarcely alludes to the source whence such information as is therein given was evidently taken. Mr. Abbott not being a medical man we are none the less desirous that he should be accorded such recognition as his zeal and intelligence in this matter merit, whether the spaying of cows shall or shall not eventually prove a solution to some extent of the milk problem.

We are glad that the article in question has attracted attention in England as well as in this country, for the problem of milk supply is certainly no nearer a satisfactory solution in London than in New York or Boston, and we may hope to receive material aid from the efforts of our professional brethren there who are earnestly laboring in the same direction. The forthcoming report of a committee appointed at the same meeting before which the paper above alluded to was read will shortly be made public. This committee has been holding meetings for some months past, and has handed in a preliminary report to be followed later by further communications on the same subject. The work of the committee has been arduous, and its investigations have extended over the eastern portion of the State of Massachusetts. It is hoped that the final report and recommendations may have the effect, in connection with a more thorough system of inspection and analysis, of improving the quality of the milk supplied to the towns of that State, beginning with Boston.

OUR BOARDS OF HEALTH AND THE STATE DEPARTMENT ON CHOLERA.

BY way of precaution against the introduction and spread of cholera the State Board of Health of New York has issued a long memorandum, a copy of which has been sent to every local Health Board in the State. The history of former invasions of the disease warrants the belief that its reappearance here is probable, and some account is given of the outbreaks that occurred in this country in 1865, 1866, 1867, and 1873. In every country where the contagium exists it has ceased to be repropagated beyond the sanitary lines which separate the cleansed, drained, and ventilated premises and well-conditioned inhabitants from the filthy, or where polluted food and water and harmful beverages prepare the system for the fatal operation of the poison. For cholera to be diffused from continent to continent it must have as factors for its cultivation a centre of pollution for its cradle, a ship for its transport, and a number of towns prepared for its reception and development. Now, before the exotic infection has come, it is advised — as was urged in our editorial of July 3d — that all local Boards of Health and all householders should lose no time in enforcing such thorough scavenging and cleansing, such cleaning of sewers, drains, and ditches, and such ventilating, drying, lime-washing, and disinfecting of cellars and all damp and unclean places that if cholera comes its infective germs shall find no soil or foul surface in which to propagate epidemically. After describing the manner of the development and spread of the contagion the memorandum of the New York Board concludes by urging more specifically the duty of taking such sanitary precautions as will prevent such a tendency.

The brunt of the work of guarding against an entrance of cholera must naturally devolve upon the boards of health of our Atlantic States and sea-board cities, but the inland States have learned from the last European epidemic of small-pox that home precautions are far from superfluous. The Illinois Board with its customary energy has issued through its secretary, Dr. Rauch, a circular which has been sent to the mayors or presidents of village boards of 644 cities, villages, and towns throughout that State. From this sensible circular we make the following extracts, which are also entirely consonant with our editorial of July 3d, whose warning was, as subsequent events show, not premature: —

"It is entirely possible that we may escape a visitation of Asiatic cholera this year, although there is yet plenty of time for the disease to reach our shores before cold weather. But even if there were no danger from this source, it should be remembered that everything which is done in the direction of sanitary improvement benefits the general health, reduces the amount of sickness, and lessens the death-rate. An obvious duty, therefore, rests at all times, but more urgently at present, upon those charged with the administration of public health affairs, to take such steps as may be necessary to remedy any defects in the existing sanitary status.

"To this end a general inspection of the entire territory under your jurisdiction should be made forthwith, and all nuisances or other conditions injurious to the public health which may be disclosed by such inspection should be promptly abated. Especial attention should be paid to, First, The condition of the water supply. Second, The disposition of night-soil, garbage, and sewage. Third, The cleansing of streets, alleys, and other public places. Fourth, The supervision of food supplies, and of market-places, slaughter-houses, and similar establishments. Fifth, The general sanitation of every house and its surroundings.

. . . . . .

"It is desired that this work of inspection and remedying of evils and defects be begun at the earliest practicable moment, and a preliminary report be made to this office covering, in a general way, the existing sanitary condition, and the measures adopted and enforced for its improvement."

Secretary Frelinghuysen has, by cable, instructed the consular officers at London, Liverpool, Marseilles, Havre, Bordeaux, Bremen, and Hamburg to at once appoint competent physicians to inspect all vessels and passengers departing for the United States from those ports. The consuls are instructed to refuse clean bills of health in all cases except upon the recommendation of the sanitary inspector that such bills be given; and to report by cable any case of infectious or contagious disease known to exist on board of a vessel at the time of her departure for the United States. This course is adopted in order that the health officers in our ports may have timely warning of approaching danger, and be prepared to take such measures as shall prevent the scourge from gaining a foot-hold in this country, and is one in support of which international coöperation was sought by the abortive Congress called at Washington in January, 1881.

MEDICAL NOTES.

— His Excellency the Governor of this Commonwealth makes his visits upon the State institutions unexpected and unannounced. On a recent visit to the Danvers Lunatic Hospital he walked in at a rear gate communicating with the servants' quarters early in the morning and had made a pretty extensive investigation before he met the head official of the institution. We believe that an inspection of Tewksbury was made in the same simple fashion, and though no time was given for shuffling tanned human skins and other unpleasant objects out of sight, yet the condition of things there as well as at Danvers met with approval. The good Haroun Al Raschid found he could learn what was going on in his dominion fully as well when he went about in the dress of a citizen as in his official state, and investigating committees and governors sometimes do well to follow his example.

— The approach of the hay fever season suggests mention of some of the remedies which have recently been claimed as moderately successful. Dr. W. T. Phillips recommends belladonna, which he found successful last year (*British Medical Journal*, July 14, 1883). In the same journal (June 7th, page 1090) he now gives the dose as one and a quarter minim of the succus every hour till relieved (thirty minims to three ounces of water). For coryza, Dr. G. E. Dobson recommends (*Lancet*, May 31st, page 978) the inhalation of the vapor of camphor and steam, the vapor being made to come in contact with the outer surface of the face surrounding the nose by means of a paper cone placed with the narrow end downwards in a vessel containing hot water and a drachm of coarsely powdered or shredded camphor. If this is continued ten or twenty minutes at a time, and repeated three or four times in as many hours, a cure is usually effected.

— The *London Medical Record* quotes from the *Russkaia Meditz* Dr. Prokop Popoff as stating that in more than three hundred cases of acute and chronic rheumatic coryza he used, with great success, the following simple plan of treatment: Twice daily (in the morning on rising, and at night on going to bed) for two days the patients are ordered to wash their legs from the sole up to the knee with ice-cold water, and to subsequently rub the washed parts with a dry towel or a piece of rough linen or cloth until a vivid redness and feeling of warmth appears. The whole procedure takes not more than five minutes. No other measures or precautions are required. A striking improvement follows already on the next day; in fact, the improvement is usually so great that many patients content themselves only with one day's treatment, regarding themselves as cured.

— We learn from one of our English exchanges that one of the latest additions to the Health Exhibition is an anthropometrical laboratory, which has been organized by Mr. Francis Galton, and has been fitted with a set of instruments for the measurement of certain personal facts. A small fee will be charged for admission, and in return for this the visitors will be furnished with a pamphlet, explanatory of the objects of anthropometry, and a carefully filled-up schedule, of which a duplicate will be kept for statistical purposes. This record will contain name (or initials) age, sex, profession, color of hair and eyes, place of birth and residence, height (standing and sitting), weight, chest capacity, as measured by a spirometer, strength of squeeze and pulse, swiftness of blow, acuity of sight and hearing, and the conditions of the color sense.

NEW YORK.

— In a case of death from the eating of raw ham, which occurred recently at Arietta, in Hamilton County, and which has been investigated by a committee of the State Board of Health, the muscular tissue of the patient has been found to be swarming with trichinæ.

— Dr. Cyrus Edson, chief of the second sanitary division, has presented to the New York Board of Health a report embodying the results of analyses made by Dr. Elwyn Waller of the water from nine artesian wells in the city, which, with one exception, are used by manufacturers of soda and mineral waters, and which vary in depth from thirty to one hundred and sixty-nine feet. The water taken from seven of these wells is pronounced bad and unwholesome, and from two others is characterized as doubtful. The report continues: "Owing to the geological formation of the island the water in many of the wells, however deep, is the drainage of the district closely adjacent to where the well is sunk. The importance of compelling the manufacturers to use pure and wholesome water is manifest when it is remembered how frequently mineral and carbonated waters are prescribed by physicians for invalids and persons in delicate health who are most liable to contract disease.

— State Comptroller Chapin has appointed Prof.

Charles S. Sargent, of Harvard, upon the committee to investigate and report upon the system of forest preservation in the Adirondacks.

Miscellany.

THE NATIONAL VALUE OF PUBLIC HEALTH.

SIR JAMES PAGET, in his address delivered at the inauguration of the juries of the International Health Exhibition, presented in a striking manner some of the losses arising from ill health, apart from and in addition to the cases of death. We make room for the following extracts: —

"I think, then, that we cannot escape from the reasons to believe that we lose in England and Wales, every year, in consequence of sickness, 20,000,000 of weeks' work; or, say, as much work as 20,000,000 of healthy people would do in a week.

"The number is not easily grasped by the mind. It is equal to about one fortieth part of the work done in each year by the whole population between fifteen and sixty-five years old. Or, try to think of it in money. Rather more than half of it is lost by those whom the Registrar-General names the domestic, the agricultural, and the industrial classes. These are rather more than seven millions and a half in number, and they lose about 11,000,000 of weeks; say, for easy reckoning, at a pound a week; and here is a loss of £11,000,000 sterling from what should be the annual wealth of the country. For the other classes, who are estimated as losing the other 9,000,000 weeks' work, it would be hard and unfair to make a guess in any known coin; for these include our great merchants, our judges and lawyers and medical men, our statesmen and chief legislators; they include our poets and writers of all kinds, musicians, painters, and philosophers; and our princes, who certainly do more for the wealth and welfare of the country than can be told in money. . . .

"Take, for example, such a disease as typhoid fever — that which Mr. Huxley has rightly called the scourge and the disgrace of our country. It has of late destroyed in England and Wales, among persons in the working time of life, nearly 4000 in the year. Its mortality is about fifteen per cent.; so that if, in any year, 4000 die of it, about 23,000 recover from it. Of these the average length of illness is, on the authority of Dr. Broadbent, about ten weeks. Here, therefore, from one disease alone, and that preventable, we have an annual loss of 230,000 weeks' work, without reckoning what is lost with those who die. And the same may be said of nearly all the diseases that are most prominent in the bills of mortality. The record of deaths, sad as it is, tells but a small part of the losses of happiness and welfare that are due to sickness. It is as if, in a great war, we should have a regular return of the numbers killed, but none of the numbers wounded, though these, more than the killed, may determine the issue of the war. . . .

"But, some may ask, can these things be prevented? Are they not inevitable consequences of the manner of life in which we choose or are compelled to live? No; certainly they are not. No one who lives among the sick can doubt that a very large proportion of the sickness and the loss of work which he sees might have been prevented; or can doubt that, in every succeeding generation, a larger proportion still may be averted, if only men will strive that it may be so.

"Let me enumerate some of the chief sources of the waste, as they appear to one's self in practice.

"Of the infectious fevers, small-pox might be rendered nearly harmless by complete and careful vaccination. Typhus and typhoid, scarlet fever and measles, might, with proper guards against infection, be confined within very narrow limits. So, probably, might whooping-cough and diphtheria.

"Of the special diseases of artisans there are very few of which the causes might not be almost wholly set aside. Of the accidents to which they are especially liable the greater part, by far, are due to carelessness.

"Of the diseases due to bad food and mere filth; to intemperance; to immorality; in so far as these are self-induced, they might, by self-control and virtue, be excluded. And with these scrofula, rickets, scurvy, and all the wide-spread defects related to them, might be greatly diminished.

"It can only be a guess — but I am sure it is not a reckless one — if I say, that of all the losses of work of which I have spoken, of all the millions of weeks sadly spent and sadly wasted, a fourth part might have been saved, and that henceforth, if people will have it so, a still larger proportion may be saved. . . .

"We may become the more sure of what may be done by looking at what has been done already. Let me show some of it; it will be a relief to see something of the brighter side of this picture.

"In a remarkable paper lately read before the Statistical Society Dr. Longstaff says: 'One of the most striking facts of the day, from the statistician's point of view, is the remarkably low death-rate that has prevailed in this country during the last eight years.' In these years the annual death-rate has been less than in the previous eight years in the proportion of two deaths to every 1000 persons living. The average number of deaths has been 50,000 less in the last than in the previous eight years. Doubtless many things have contributed to this grand result, and it is not possible to say how much is due to each of them; but it would be unreasonable to doubt that the chief good influence has been in all the improved means for the care of health which recent years have produced. This is made nearly certain by the fact that the largest gains of life have been in the diminution of the deaths from fever, and of the deaths in children under fifteen years old, for these are the very classes on which good sanitary measures would have most influence.

"The annual number of deaths from typhus, typhoid, and the unnamed fevers has been about 11,000 less than it was about twenty years ago. The annual number of deaths of children under five years old has been about 22,000 less than it was; and that of children between five and fifteen has been upwards of 8000 less.

"These are large results, and though they tell of only deaths, yet they bear on the chief subject I have brought before you, — the working power of the nation: for, however much we might assign to improved methods of medical treatment of fever, yet the diminished number of deaths means a very large diminution in the total number of cases. The deaths during the working years of life were 6500 less; and, this being so, we may hold that, if the average mortality was say, twenty-five per cent., the diminution in the total number of cases must have been at least 25,000; and if we may believe, as before, that each of these involved ten

weeks of sickness, we have, in these fevers alone, a clear saving of 185,000 weeks' work in every year. . . .

"It is said, whether as fact or fable, that the pursuit of science and of all the higher learning followed on the first exercise of the humanity which spared the lives of sick and weakly children; for that these children being allowed to live, though unfit for war or self-maintenance, became thinkers and inventors. But science and art are not dependent upon invalids; minds are not the more free or the better now for having to work in feeble bodies; each nation needs for its full international influence both health and knowledge, and such various and variable health, that there should be few places on earth or water in which some of its people cannot live, and multiply, and be prosperous.

"If, therefore, we or any other people are to continue ambitious for the extension of that higher mental power of which we boast, or for the success of the bold spirit of enterprise with which we seek to replenish the earth and subdue it; if we desire that the lessons of Christianity and of true civilization should be spread over the world, we must strive for an abundance of this national health, tough, pliant, and elastic, ready and fit for any good work anywhere."

CHOLERA AND SANITARY NEGLECT AT TOULON.

THE outbreak of cholera at Toulon, says *The Lancet*, will surprise no one who is at all acquainted with the barbaric condition, so far as sanitation is concerned, of this, the French Portsmouth. When the cholera last visited France this town suffered most severely, but the warning was of no avail. It is said, on credible authority, that the death register if examined will reveal a surprising number of fatal cases of typhoid fever among strangers visiting the town, while among the native population this fever is of comparatively rare occurrence. The latter, it is maintained, must be inoculated by the foul atmosphere if it fails to kill during infancy; but friends and visitors coming from more wholesome districts at once fall victims to this fever if they are imprudent enough to remain a little while at Toulon. Military experience confirms this theory. So long ago as March 26, 1881, it was reported that Dr. Galliott, of the Marines, had received a gold medal from the French Government for an essay on typhoid fever at Toulon. The facts revealed, however, were of so alarming a nature that the Government absolutely refused to communicate to any one the contents of this report; and, while awarding the gold medal to Dr. Galliott, enjoined upon him the strictest secrecy. In spite of this injunction, the main points were ascertained, from which it appeared that at the barracks of the Mourillon, holding some two thousand soldiers, about a thousand cases of illness had occurred in the course of twelve months. Of these half were fully developed cases of typhoid fever, while the others, though more doubtful, were also for the most part clearly attributable to bad hygiene. The volunteers for one year's service, being younger men, were the principal victims; and, with the soldiers as with the civil population, those who had come from distant and healthy districts were the chief sufferers, while the natives of Toulon escaped. Now, the barracks of the Mourillon are only inhabited by old and inured soldiers; the younger men are sent to the fortresses on the surrounding mountains and islands. Still nothing has been done to improve the general sanitary condition of the town. The public has a just cause of complaint, for the authorities, having suppressed information, have rendered themselves alone responsible. In their own interests they should have taken measures in time, instead of allowing Toulon to become a menace to the health of Europe.

THE RELATION BETWEEN SCARLATINA AND DIPHTHERIA.

THE *British Medical Journal* (April 12th) remarks editorially: —

"The evidence of close relationship in origin and pathology of these diseases is rapidly accumulating. In some cases, barring mistakes in diagnosis, it seems that one develops from exposure to the other. In a recent epidemic at Sutton in-Ashfield they existed side by side. Some of the cases affected had a red eruption, followed by a desquamation of the skin and renal dropsy; others had no rash, but were followed by paralysis. Two cases of what appeared to be scarlatina occurred in an isolated group of cottages; from these contagion was carried to another family, and two children died, one of 'scarlatina maligna,' one of 'diphtheria.'

"In some cases the first patient in a family attacked had vomiting, sudden accession of fever, and a red rash; while others, a week or two later, had no rash, but white patches in the throat, and, in one or two instances, subsequent paralysis of the pharyngeal muscles. One case, beginning apparently as diphtheria, with white patches in the throat, developed on the third or fourth day the scarlatinal rash, which was followed by anasarca, from which he died. In another family, on the other hand, four members had typical scarlet fever in November; in January one of these, and one who escaped, had typical diphtheria.

"At Whitstable and Dunmow, after diphtheria had been prevailing three months, scarlatina appeared. After existing together for a time diphtheria subsided, while scarlatina became more prevalent and more fatal. After five or six months this diminished, and diphtheria again made its appearance. The diagnosis between the diseases was very often impossible.

"The most striking instance mentioned by the writer of the connection between the diseases is the following: A child who had contracted scarlet fever at service came to her home, — one of two isolated cottages. She was convalescent, and pains had been taken to disinfect her clothing and her person. Eight days later her sister was taken ill, and died in two days of 'malignant sore throat.' On the following day three more were attacked with the same disease; one died in two, one in three, and one in ten days. In the last case there was a petechial eruption. It was called 'diphtheria.' The physician in attendance considered the other cases as belonging to this category. A child in the adjoining cottage was taken, ten days after the return of the girl above mentioned, with a sore throat, developed a well-marked scarlet-fever rash on the sixth day, which was followed by desquamation on chest, arms, and legs. Four other children in this family escaped, but a woman who lived some distance away, who came to nurse the children, took diphtheria, and died on the fourth day, while sitting in her chair. The conclusion reached is, that though scarlatina generally originates from personal contagion, and though typical

diphtheria often has a purely local origin, especially from sewer emanations, both diseases are due to an infection which in all cases attacks the throat, from which it is mainly propagated. In passing from person to person it may be so modified as to cause in one instance characteristic scarlatina, in another typical diphtheria, in a third a mongrel affection which it is difficult to refer to either, or to identify by any other name than that of a bad sore throat, and which is, in fact, a connecting link between the two diseases."

REPORTED MORTALITY FOR THE WEEK ENDING JULY 5, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diphtheria and Croup.	Measles.
New York	1,340,114	929	571	42.05	8.77	31.14	3.21	3.38
Philadelphia	927,995	394	203	28.25	12.25	16.25	3.25	.75
Brooklyn	644,526	372	245	51.62	9.86	43.08	1.74	.48
Chicago	632,100	329	217	35.40	8.40	23.40	2.10	4 20
Boston	423,800	143	49	20.27	15.38	11.88	3.49	—
Baltimore	408,520	227	153	43.12	9.68	37.84	1.76	1.32
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	179	84	17.40	12.43	8.47	—	1.13
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	97	41	23 69	16.48	19.57	—	—
Pittsburg	180,000	112	78	48.06	7.12	37.38	3.56	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	45	10	13.33	15.55	6.66	2.22	—
New Haven	62,882	22	—	—	13.62	—	—	—
Nashville	54,400	20	6	40.00	10.00	25.00	5.00	—
Charleston	52,286	30	11	20.00	13.33	13.33	—	—
Lowell	71,447	16	6	25.00	—	12.50	—	—
Worcester	69,442	19	11	26.30	5 26	5.26	10.52	—
Fall River	62,674	21	12	28.56	—	9.52	—	4.76
Cambridge	60,995	18	5	5.55	16.66	—	—	—
Lawrence	45,516	18	6	—	11.11	—	—	—
Lynn	44,895	8	3	—	25 00	—	—	—
Springfield	38,090	10	3	20.00	20.00	10.00	10.00	—
Somerville	31,350	7	3	57.12	14.28	28.56	14.28	—
Holyoke	30,515	15	12	17.77	13.33	20.00	—	—
New Bedford	30,144	11	2	9.09	27.27	—	—	—
Salem	29,503	14	4	—	7.14	—	—	—
Chelsea	24,347	5	2	—	—	—	—	—
Taunton	22,693	7	2	14.28	—	—	—	—
Gloucester	21,400	5	3	—	20.00	—	—	—
Haverhill	20,905	12	4	—	8 33	—	—	—
Newton	19,421	6	0	33.33	16.66	—	—	—
Brockton	18,323	6	2	—	16.66	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	4	1	25.00	25.00	25.00	—	—
Fitchburg	13,433	5	3	—	20.00	—	—	—
Massachusetts towns	375,830	52	25	19.20	20.34	20.34	—	—

Deaths reported 3168 (no reports from St. Louis, Cincinnati, Buffalo, and Milwaukee): under five years of age, 1777; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 1107, diarrhœal diseases 796, consumption 325, lung diseases 182, diphtheria and croup 76, measles 61, scarlet fever 44, whooping-cough 31, malarial fevers 29, cerebro-spinal meningitis 26, typhoid fever 24, small-pox nine, erysipelas eight, puerperal fever three. From *scarlet fever*, New York 13, Philadelphia eight, Brooklyn six, Chicago five, Boston three, District of Columbia, Pittsburg, and Providence two each, Lowell, Newton, and Westborough one each. From *whooping-cough*, New York 12, Chicago five, New Orleans three, Philadelphia, Brooklyn, Boston, and District of Columbia two each, Pittsburg, Somerville, and Hyde Park one each. From *malarial fevers*, New York and New Orleans nine each, Brooklyn seven, Chicago two, Philadelphia and Nashville one each. From *cerebro-spinal meningitis*, Philadelphia 10, New York and Fall River three each, Charleston and Worcester two each, Chicago, Lowell, Lawrence, Holyoke, Taunton, and Newton one each. From *typhoid fever*, Philadelphia eight, Chicago four, Baltimore three, New York and Boston two each, New Orleans, Nashville, Cambridge, and Marblehead one each. From *small-pox*, New Orleans eight, Philadelphia one. From *erysipelas*, New York and Chicago two each, Philadelphia, Brooklyn, Baltimore, and New Bedford one each. From *puerperal fever*, Philadelphia, Brooklyn, and Baltimore one each.

In 103 cities and towns of Massachusetts, with an estimated population of 1,388,574 (estimated population of the State 1,955,104), the total death-rate for the week was 15.35 against 15.41 and 15.00 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending June 21st, the death-rate was 18.7. Deaths reported 3133: acute diseases of the respiratory organs (London) 227, measles 148, whooping-cough 116, diarrhœa 55, small-pox (London 41, Liverpool 11, Sheffield four, Cardiff, Sunderland, Hull, and Manchester one each) 60, fever 38, diphtheria 11. The death-rates ranged from 11.3 in Derby to 26.6 in Liverpool; Birmingham 17.2; Blackburn 20.8; Bradford 19.7; Leeds 20.1; Leicester 15.7; London 17.8; Manchester 23.4; Nottingham 15.8; Sheffield 17.9. In Edinburgh 19.7; Glasgow 24.6; Dublin 27.1.

The meteorological record for the week ending July 5th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date. June–July, 1884.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 29	30.137	73	89	58	68	42	81	63	W	W	SW	8	7	11	C	C	C	—	—
Mon., 30	30.014	74	89	62	74	45	92	70	W	SW	SW	10	12	10	C	C	C	—	—
Tues., 1	29.828	75	85	66	90	65	93	82	SW	SW	SW	9	11	8	O	F	O	—	—
Wed., 2	29.775	78	90	67	92	61	81	78	SW	SW	W	6	10	10	O	C	O	—	—
Thurs., 3	29.963	71	80	67	66	62	84	70	N	SE	NE	9	10	1	F	C	C	—	—
Fri., 4	30.019	65	73	60	71	72	100	81	E	E	E	3	9	8	C	C	R	—	—
Sat., 5	29.815	72	80	61	100	69	100	89	S	SW	S	9	13	7	R	C	R	—	—
Mean, the Week.	29.936	73	83	63				76										13.00	0.84

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, APRIL 1, 1884, TO JUNE 30, 1884.

BAILHACHE, P. H., surgeon. Detailed as chairman of Board to examine candidate for appointment into the Revenue Marine Service. May 17, 1884.

VANSANT, JOHN, surgeon. To proceed to Empire City, Oreg., as inspector. April 2, 1884.

HUTTON, W. H. H., surgeon. Granted leave of absence for twenty-five days. May 14 and June 9, 1884.

MILLER, T. W., surgeon. Granted leave of absence to attend the meeting of the American Medical Association. May 1, 1884.

To proceed to Pittsburg, Penn., Ashtabula, Ohio, Buffalo, N. Y., and Detroit, Mich., as inspector. May 10, 1884.

WYMAN, WALTER, surgeon. To proceed to Crisfield, Md., as inspector. April 11, 1884.

Detailed to represent the Marine Hospital Service as delegate to the American Medical Association. April 17, 1884.

Detailed as president of Board for physical examination of candidates for appointment as cadets in the Revenue Marine Service. May 20, 1884.

To examine cadet-graduates Revenue Marine Service as to physical qualifications. May 31, 1884.

Detailed as member of Commission to inspect United States buildings at quarantine station on the Delaware River. June 16, 1884.

AUSTIN, H. W., surgeon. Granted leave of absence to attend the meeting of the American Medical Association. May 2, 1884.

GASSAWAY, J. M., surgeon. When relieved by Passed Assistant Surgeon Mead to proceed to Portland, Maine, and assume charge of the service. April 16, 1884.

Granted leave of absence for thirty days. May 28, 1884.

STONER, G. W., passed assistant surgeon. When relieved by Surgeon Gassaway to proceed to Cairo, Ill., and assume charge of the service. April 16, 1884.

When relieved by Surgeon Gassaway to report in person to the surgeon-general. June 20, 1884.

IRWIN, FAIRFAX, passed assistant surgeon. Granted leave of absence for twenty-one days. June 19, 1884.

MEAD, F. W., passed assistant surgeon. When relieved by Assistant Surgeon Devan to proceed to Philadelphia, Penn., and assume charge of the service. April 16, 1884.

Detailed as recorder of Board for physical examination of candidates for appointment as cadets in the Revenue Marine Service. May 20, 1884.

CARTER, H. R., passed assistant surgeon. To inspect unserviceable property at the San Francisco Hospital. May 24, 1884.

WHEELER, W. A., passed assistant surgeon. To inspect unserviceable property at the Chicago Hospital. May 24, 1884.

BENSON, J. A., passed assistant surgeon. Granted leave of absence for thirty days. April 14, 1884.

When relieved by Passed Assistant Surgeon Stoner to report to him for temporary duty. May 19, 1884.

BANKS, C. E., passed assistant surgeon. Detailed as member of Board to examine physically candidate for appointment into the Revenue Marine Service. May 17, 1884.

To inspect unserviceable property at Baltimore, Md., New York, N. Y., and Boston, Mass. May 26 and June 2, 1884.

BENNETT, P. H., assistant surgeon. Granted leave of absence for twenty days. June 28, 1884.

DEVAN, S. C., assistant surgeon. To proceed to Port Townsend, W. T., relieve Passed Assistant Surgeon Mead, and assume charge of the service. April 14, 1884.

URQUHART, F. M., assistant surgeon. Granted leave of absence for thirty days. May 22, 1884.

YEMANS, H. W., assistant surgeon. To report to Captain M. A. Healey for duty as medical officer during cruise of revenue cutter Corwin. April 16, 1884.

GLENNAN, A. H., assistant surgeon. To proceed to Mobile, Ala., for temporary duty during sickness of Passed Assistant Surgeon Goldsborough. June 17, 1884.

APPOINTMENT.

BROOKS, STEPHEN D., M. D., of Massachusetts, having passed the examination required by the Regulations, was appointed an assistant surgeon by the Secretary of the Treasury, May 15, 1884.

(Dr. Brooks had previously served as an acting assistant surgeon from March, 1883, to May, 1884.)

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY FROM JULY 4, 1884, TO JULY 11, 1884.

BIRMINGHAM, H. P., first lieutenant and assistant surgeon. From Fort Bayard, N. M., to Fort Bliss, Texas. Paragraph 3, S. O. 137, headquarters Department of Missouri, July 3, 1884.

PROMOTIONS TO DATE FROM JULY 2, 1884.

PERIN, GLOVER, to be assistant surgeon-general, with rank of colonel.

SMITH, ANDREW K., to be surgeon, with rank of lieutenant-colonel.

MIDDLETON, PASSMORE, to be surgeon, with rank of major.

PROMOTIONS.

To be assistant surgeons with the rank of captain, after five years' service, in accordance with the Act of Congress of June 23, 1874: —

KANE, JOHN J., assistant surgeon, June 3, 1884.
BANISTER, JOHN M., assistant surgeon, June 3, 1884.
APPEL, AARON H., assistant surgeon, June 3, 1884.
RICKARD, CHARLES, assistant surgeon, June 3, 1884.
CARTER, W. FITZHUGH, assistant surgeon, June 3, 1884.

LIST OF OFFICIAL CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING JULY 12, 1884.

LUMSDEN, G. P., passed assistant surgeon. Ordered to U. S. S. Wyandotte.

PERSONS, R. C., passed assistant surgeon. Detached from the Wyandotte and placed on waiting orders.

Address.

THE PHYSICIAN A POPULAR EDUCATOR.[1]

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 11, 1884.

BY JOHN CROWELL, M. D., OF HAVERHILL.

SAID Hippocrates, two thousand years ago, "a dry soil is essential to health." Yet Professor Chandler declares that not one house in a hundred in New York has a properly constructed cellar, which, he contends, explains the large proportion of deaths from consumption, and the prevalence of rheumatism in that metropolis. Sewer connections are usually made with tile drains, which are rarely tight, and hence they seriously pollute the soil. These cellars are crowded with all kinds of domestic rubbish, and often we find open water-closets for the servants in close proximity to the air box which feeds the heating apparatus. How many refrigerators have their drip-pipes connected directly with the house-drain! How often are cisterns and water-tanks exposed to like pollution! How often are the spaces behind the wood-work of basins, sinks, and other fixtures foul with dampness, mould, and the accumulation of filth! All the leading cities of the country are guilty of the grossest neglect in the simplest details of domestic drainage and sanitary appliance. We hear the same reports from Brooklyn, Philadelphia, Chicago, and San Francisco.

In our own metropolis of Boston these defects are painfully apparent. Recent reports assure us that many fine residences in the Back Bay region are deficient in sanitary safeguards. Hundreds of houses are built upon piles in made ground. In the process of settling, which may continue for years, the drains become dislocated, and this permits sewage to saturate the foundation and sub-soil. "I have known," writes a standard authority,[2] "seventy-eight cart-loads of earth polluted in this way to be taken from under a building in the city of Boston." Official reports tell us that of three hundred and fifty-one houses examined in Boston in 1878 fifty-five per cent. of the drains were imperfect.

In Chicago, out of seventy-five houses where diphtheria occurred, only four were found in a sanitary condition; and in St. Louis, Health Officer Moore reported, in 1879, that there was probably not a single house with perfect drainage, while in a vast majority every sanitary rule was violated.

Not long since a successful business man invited his family physician to visit and inspect his new dwelling-house built on the outskirts of a suburban city. The house was a "Queen Anne cottage," of the most approved pattern, picturesque in quaint gables and odd porches, and rich in the glow of color from tinted wall and painted glass. The hand of the artist was everywhere apparent, and each adornment suggested a home of refinement and taste. After admiring all these elements of beauty, the medical friend was practical enough to inquire as to the disposal of sewage and the appliances for ventilation and heating. The owner of this "gem of a cottage" was quite oblivious on these points. They had been left to the plumber and the mason, with no personal or official oversight. It was found, upon examination, that the house sewage flowed directly into a cess-pool situated in close vicinity to the house, and unprotected by any trap. The water-closets were supplied by pipes coming from the cistern containing the water used for culinary purposes, and the cellar was damp from the defective drainage of the clay bottom; and neither bath-room nor water-closet had any adequate means of ventilation. The satisfied owner was appalled when told that his beautiful home contained the germs of disease and death, and the good physician only regretted that his unwelcome detection had not been more timely.

How invaluable may be the suggestions and advice of the members of this Society in the location and the construction of dwellings, school-houses, and factories. In a large factory in a neighboring city in this State the water-closets furnished for the operatives on each floor were unprotected by traps, and, as there was no official inspection of the building, the fact was unknown to the owner of the establishment until an epidemic among the operatives directed the attention of the resident physicians to the sanitary condition of the premises.

Since the passage of the Act of 1877, authorizing the establishment of local Boards of Health in the larger towns of the Commonwealth, there has been a marked improvement in those localities that have availed themselves of the wise provisions of the statute. And physicians have rendered a noble work of self-sacrifice in organizing such boards and consenting to remain in official position until a good working system could be secured.

But many of our communities have not yet established such boards, and the smaller towns cannot have the advantages of a complete organization. It is here that the physician can render most efficient work by personal instruction to his neighbors in feasible methods of water supply, in local drainage, in household cleanliness, and in those minor sanitary details which pertain to the order and the decencies of life.

To what kind of places do we send our patients in the summer months for the tonic influences of the blessed air from mountain or sea? Are we careful to inspect the premises and acquaint ourselves with the sanitary conditions of these resorts? How often are they deficient in the simplest rules of cleanliness, with privy, pig-sty, and well in convenient proximity to each other, while frequently, especially in the farm-houses, the dark and unventilated cellars are reeking with the odors of decaying cabbage leaves and musty cider barrels. At a favorite sea-side resort, last summer, typhoid fever made its appearance in one of the "cottages," when it was found that the victims had been drinking water from a well percolated and poisoned by sewage from a defective drain-pipe.

Typhoid dysentery often appears at the old farm-houses to which we send invalids, and we find too late the stagnant pools of sink water and the damp and filthy cellar. These vicious conditions will be remedied when we lift up the warning voice and declare that no patronage shall be given to any resort, however popular, that does not comply with the wholesome and simple rules of sanitary science.

Is the question, "What do we eat," too trivial to arrest the attention of the physician? The people of New England are far behind the rest of the civilized world in the practical accomplishments of the culinary

[1] Continued from page 50.

[2] Charles F. Wingate. Unsanitary Houses of the Rich, North American Review, August, 1883.

art. In the bustle and hurry of our busy population but little attention has been given to the sanitary conditions of cooking, and there is much of truth in the assertion that a French cook will make a nutritious dinner from the remnants of food that we consign to the waste barrel. How rarely do we find good bread, even in families where there is abundance of provisions. How fondly do we cling to the conventional pie and doughnut, as if they were chief among the inalienable rights inherited from the fathers. We smile at the astonished Frenchman who exclaimed, "What a people, a hundred religions and only one gravy!" And yet is there not a sound philosophical principle involved in this ejaculation so far as the gravy is concerned? Most of our methods of cooking seem contrived to destroy rather than to conserve the nutritious elements of the animal fibre, the albumen, the gelatine, and the fibrine. We have much to learn, not only from the French, but also from the Scandinavians, as to the methods of preparing food that shall be palatable, nutritious, and easily digestible.

When that intelligent observer, M. Taine, was visiting England, and inquiring into the methods of domestic life, he asked his host, "How do you cook vegetables in England?" "Cook them!" was the astonished reply, "why we *boil* them, how else *should* we cook them?"

In this connection there is an important class of the community demanding our attention. I refer to the laborers and operatives in our large towns, who labor on the public works and in the factories. Many of these hard-working people are in the habit of "carrying their dinner," which is of course eaten cold, and the contents of these little tin pails and baskets are richer in their variety than in nutrition. No wonder that we have been called a race of dyspeptics. He will be a benefactor to his generation, as well as "put money in his purse," who will devise a simple method of soup distribution among the operatives who depend upon this cheerless method of dining. With large tin cans, transported on hand-carts, hot soup could easily be distributed by dexterous hands among the shops and factories, and for a few cents a comforting and sustaining meal could thus be furnished.

How often do we trace the sallow, attenuated look, the languid eye, and the feeble, inelastic step of many who seek our advice to the lack of proper food at the proper time! How frequently are we obliged to attribute the complicated train of female diseases to the miserable methods of living in cheap boarding-houses, combined with the constant demands of manual labor!

We need more of chemistry as applied to cooking. The public must be instructed in simple methods of preparing food, so that the nutritious elements will be retained; and what better service can the practical chemist render than to prepare a convenient hand-book for popular use containing plain directions upon this vital subject? The philanthropist would substantially advance such benevolent work by offering a prize for the best treatise on practical cooking for general distribution among cooks of every grade, from the elaborate culinary establishments of the homes of wealth, from the fashionable saloon, hotel, and eating-house, down to the humble kitchen of the frugal housewife.

What kind of places do many of our business men occupy as offices, where they make the money spent in the elegant houses where dwell the pets and the idols of home? Too often these counting houses and offices are found in dark, narrow streets, and located in a basement, full of the stifling odors from ill-ventilated warerooms and cellars. Here are found clerks working by gas-light in mid-day, and the result is seen in the sunken eye and the sallow look and the shrunken muscle. Many such places exist in this goodly city, and the laws of mercy cry out for the protection of those who are forced to occupy them.

In the *Conduct of the Sick Room* the services of the physician as teacher are of the first importance. It is here where ignorance will reign supremely, and with fatal sway, unless the firm and intelligent hand of authority interferes in behalf of the helpless and patient sufferers. In the furnishing of the room, in the disposition of air and sunlight and artificial heat; in matters of cleanliness in the clothing and in the necessary appurtenances, and above all in the *nursing*, the vigilant eye and the guiding genius of the medical attendant are among the essential elements in the successful treatment of disease.

In private practice as well as in hospitals the physician should seek to have the furnishing of the sick room very simple, with as little of drapery and heavy carpeting as possible, and he should endeavor to secure ventilation and a proper adjustment of light by such contrivance as his ingenuity can suggest. The popular prejudice against air and sunlight has not yet faded from the face of the earth, and often the attendant will exclude both of these vital elements, as if they were the cause rather than the antidote of disease. In the regulation of artificial heat a good thermometer in the sick room is all important, and its registration should be insisted upon by the physician, and *his* standard of cleanliness in the care of the clothing and the vessels of the room should be often held up as a guide, and, if needful, as a terror, to the presiding genius.

It must be confessed that the average nurse, as found in our country towns and villages, is not the ideal guardian angel of camps and of hospitals, whose fairy shadow, as she flits along the corridors, falls like a benediction upon the helpless sufferers. The country physician has to deal with different material, and oftentimes his greatest embarrassment in the treatment of disease arises from the ignorance or duplicity of the nurse. In the larger towns and cities, and especially in the metropolis, this difficulty has been effectually met and overcome by the training of nurses in the hospitals, and a noble army of helpers is now in the process of this discipline, whose intelligent labors will add to the success of medical treatment wherever they are available.

But in the towns where hospitals do not exist the trained nurse is almost unknown, except in the most highly favored families. This vital want can be effectually met by the physicians of any given locality in the establishment of normal classes for the instruction of all women desiring the office of nurse, the physicians acting as teachers, under a system simple and elastic in its operation. In these classes instruction should be given in those essential duties of the sick room which ought to come within the province of every attendant deserving the name of nurse. The basis of such instruction and its practical working are most admirably and succinctly set forth by Professor Jacobi in

an address delivered a year ago before the Mt. Sinai Training School for Nurses.[1] He says: —

"May I tell you what a good trained nurse may teach, and can teach? How to recognize a fever, how to compare the local temperatures of the several parts of the body, and how to equalize them; she knows that ever so many feeble children might have been saved if but the feet and legs had not been allowed to get cold; how to bathe, when, and when to stop; how to regulate the position of the head, — I remember quite well the case of inflammatory delirium which would always be relieved by propping up the head, — how to treat intelligently an attack of fainting; how to render cow's milk digestible by repeated boiling, or lime-water, or table-salt, or farinaceous admixtures; how to feed in case of diarrhœa; how to refuse food in case of vomiting; how to apply and when to remove cold to the head; how to ventilate a room without draught; and a thousand other things. She will also use her knowledge and influence in weaning the public of nostrums, concerning which hardly anything is known except what you have to pay for the promises of the label. She will break the public of the indiscriminate use of quinia, with its dangers possibly for life; cure you of the tendency of making the diagnosis of malaria the scapegoat of every unfinished or impossible diagnosis; she will teach you that the frequent and reckless domestic use of chlorate of potassium leads to many a case of ailment, to chronic poisoning, possibly in the shape of Bright's disease, or to acute poisoning, with unavoidable death. These are but very few of the things she can do, and but a little of the knowledge she cannot but distribute."

We might add to this enumeration the ability to meet the many emergencies incident to the sick room. How to arrest a post-partum hæmorrhage, how to tie the umbilical cord, how to assist in administering anæsthetics in puerperal convulsions, and, above all, how to prepare the nourishment ordered by the physician.

Ask the ordinary nurse how she makes that popular decoction known as beef tea, or how she prepares the artificial food that many infants are doomed to feed upon, and we shall find a lack of method and uniformity almost ludicrous. Here is where the training hand of the physician should be felt, and by actual object-teaching should he give the necessary instruction.

In those families where the limitations of poverty forbid the luxury of a nurse the physician can do a timely service by the enforcement of a few simple rules for the relief of the suffering patient, and oftentimes he can introduce a system of attendance easily comprehended and followed. But what shall he do when he is confronted by the abodes of

"Poverty, hunger, and dirt"?

— the haunts of idleness, shiftlessness, and drunkenness; where the wretched offspring of disease and crime huddle together in the helplessness of want! It is here that he must assume the part of the philanthropist, and stoop down, and with pitying hands minister to God's suffering poor.

And can he not do more than this? Can he not, by his influence among the more favored classes, assist in the establishment of a *system of ministration* that shall result in lifting up these wretched sons of want, so that the coming generation, at least, can have some appreciation of the decencies of industry and of cleanliness. It is a noble part of the ministry peculiar to our profession to be able to inspire hope, and confidence, and an honest industry among the descendants of families that for generations have sat in the "dark by-places," with no aspiration and no purpose. And in this way something effectual can be accomplished towards arresting the frightful mortality among the children of the poor.

A noble army of women is doing a benevolent work in relieving the *immediate* wants of these poor sufferers. But in the broader and more radical work of instituting a system of distribution that shall look to a *reformation*, the physician, by his intimate knowledge of the causes of poverty and suffering, must act an important part as adviser and educator. To him, in a special sense, belongs the duty of suggesting to charitable bodies plans of operation that shall secure those practical results so essential to the substantial success of free and generous giving.

The Ethics of this Society, in their relation to a certain class of medical practitioners, are grossly misapprehended by the public. People can readily understand why we can have no affiliation with the vulgar charlatan or the arrant quack, but they do not as easily comprehend our attitude towards another class, composed largely of men of culture and high social position; men who, perhaps, were educated in the same schools and colleges, and who seem in all respects to be peers with the Fellows of this honored Society. Representatives of other professions have not been slow in their strictures, and we have been charged with bigotry, narrowness, and jealousy because of our position in this relation.

Much of this criticism arises from the ignorance of the popular mind as to the causes that compel an adherence to the fundamental principle, that the practice of medicine has a basis as broad and liberal as science itself, and therefore it cannot be limited in its universal scope by any system based upon an *exclusive dogma*, and depending for its success upon the charm of a "distinctive appellation."

We might explain to all such critics, and without any compromise of professional dignity or of self-respect, that, from the very nature of things, these exclusive practitioners are the victims of their own environment; that, by the narrowing process of their own theory, they shut themselves outside the generous fellowship of liberal thinking, and take refuge within the walls that they have built. Is this the way that "star-eyed science" conducts her votaries? Is she exclusive? Has she secrets locked up and hidden from the search of universal investigation? Is it not time that the epithets "regular," "old school," "allopath," popular nicknames coined by the opposers of science, were discarded from our vocabulary and ignored forever? We desire no other title than the simple, homely name of physician, a term broad enough to embrace all that is desirable or possible in the art of healing; that recognizes every hint or suggestion of a liberal or intelligent experience; that receives into its vocabulary the nomenclature of the honest, patient investigator, and accepts new theories, even at the sacrifice of those long cherished, but no longer practical, methods of the past.

Not long since a member of this Society was entertaining a company of clergymen around his hospitable board, when the conversation turned upon that phase of our ethics relating to the discipline of certain members. "Why is it," said a leading divine to his host on this occasion, "that your Society pursues such a severe and illiberal course toward members who differ from you in methods of practice?" The genial doctor explained that the course pursued was based upon the

[1] Address delivered at the first commencement of the Mount Sinai Training School for Nurses, May 12, 1883. By Abraham Jacobi, M. D.

same principle as that which governs all social compacts. "What would you do with a member of your religious body who denied the fundamental elements of your doctrinal statement, who assumed another and distinctive title based upon a speculation? and more than all that, who assisted in organizing and supporting a system whose principles were in direct opposition to those held vital to your existence?" "Do with him?" said the good minister, with commendable zeal, "We'd have him disciplined, and if he did n't repent and recant we'd cut him off!" "That is somewhat like our position," was the quiet and convincing reply.

A gentleman of my acquaintance, in high position in the legal profession, whose sick daughter was attended by a homœopathic physician, was highly incensed when a member of this Society declined a consultation. The judge, who could adjust a knotty point of law, failed to discern the ethical relations of this case, and the only difference that he could see between the two practitioners was that one was far more liberal and elastic in his practical methods than his conservative neighbor. He subsequently learned, however, that the cause of refusal was not based upon any narrow or selfish ground, that it did not depend upon the administration of large doses or small doses, nor upon the *belief* in any particular dogma. The fault was in the assumption of a title and the formation of an organization "distinct from, and opposed to, the medical profession."

Why not distinctly emphasize the statement, so that he that runs may read and understand, that the medical profession has no limitations except such as are made by science itself; that anywhere and everywhere a welcome is extended to all who comply with the benign and rational conditions of membership; that a profession based upon bigotry, narrowness, or illiberality cannot exist under the searching light of the nineteenth century?

Prof. Austin Flint, in his admirable digest of the Medical Ethics of the American Medical Association, uses the following language upon this important topic: "The true ground for refusing fellowship in consultations, as in other respects, is a name and an organization distinct from, and opposed to, the medical profession. Whenever practitioners assume a distinctive appellation, thereby assuming to represent an essentially distinct system of practice, taking an attitude of antagonism to the 'regular' profession, seeking popular favor on the ground that they belong to a 'new school,' based on truth and productive of good, whereas the 'regular' profession belongs to an 'old school,' based on error and productive of harm, how can there be fellowship either in consultations or in other respects? If they who thus assume an attitude of antagonism to the medical profession conscientiously hold to the distinctive tenets which, as they profess, are the ground for their antagonism, how can they consistently desire to meet members of the latter in consultation, and, with opposing views of therapeutics, how could such consultations accomplish 'the sole object in view,' namely, 'the good of the patient?'" And he adds these terse words, which possess a significant meaning: "If, as is asserted, homœopathy has practically been abandoned by most of those who practice under this name, or so modified that the modes of treatment in cases of disease are not essentially different from those of the 'regular' profession, why retain the separate organization and the name, which imply to the public a radical therapeutic distinction? If the assertion be true, the name and the organization being retained, professional fellowship is rendered thereby immoral on the ground of complicity in a fraud upon the public."[1]

(To be concluded.)

Original Articles.

THE PLASTER-POSTERIOR SPLINT IN THE TREATMENT OF FRACTURES OF THE LEG.[2]

BY GEORGE W. GAY, M. D., OF BOSTON.

THE ideal dressing for a broken leg must be simple, comfortable, cheap, readily obtained, easily applied and removed, and must allow a frequent inspection of the limb without disturbing the patient. It must be applicable to all cases; capable of correcting any and all deformities, and of retaining the fragments in the desired position for an indefinite length of time; not liable to produce abrasions or other mischief; and once properly adjusted it should require little attention during the progress of the case.

Such an appliance has never, to my knowledge, been brought to the notice of the profession, but the one that seems to combine more of the desirable qualities than any other is the plaster-posterior splint, which has now been in constant use at the City Hospital for several years, and which has become a standard method of treatment in that institution.

The splint is made of sheet wadding, a coarse muslin or crinoline, and plaster of Paris. It may be applied as follows: The leg is washed and dried and enveloped in the cotton, which has been torn into strips about four inches wide, sewn together, and made into rolls like an ordinary bandage. Enough should be used to protect the bony processes and tendo-Achillis from pressure.

A single layer of the gauze large enough to extend from the toes to above the knee is to be placed beneath the limb, closely wrapped about it, and cut so as to completely surround it, with the exception of a space about an inch wide on the anterior aspect. This piece serves as a pattern by which the other layers, six or eight in all, are to be made. The muslin is to be slashed on each side opposite the point of the heel to allow the foot-piece to be brought to a right angle without forming clumsy folds. Other slashes may be required to make the dressing fit snugly and smoothly, and to prevent wrinkles.

Fresh plaster of Paris mixed with warm water to the consistency of cream is now to be thoroughly rubbed into each layer of the gauze, and the whole applied to the limb at once, moulded closely and carefully to it, and firmly secured with a common bandage. The fragments are to be held in their proper place until the splint has become sufficiently firm to prevent displacement, which with good plaster is not over fifteen or twenty minutes. In some cases this object may be accomplished by means of sand bags or pillows. In a few hours the outer bandage may be removed, the cotton wadding cut open with scissors, and the appliance is complete, and may be worn with comfort for several weeks.

A certain amount of judgment and tact is required to use this dressing satisfactorily, but no more than is

[1] Medical Ethics and Etiquette, page 47.

[2] Read before the Massachusetts Medical Society, June 10, 1884, and recommended for publication by the Society.

necessary in the treatment of fractures of the leg by any other method. A little experience will enable any one to become familiar with the practical details of applying this bandage, and the field of its usefulness will be found to increase in proportion to one's familiarity with it.

Particular attention is called to a few points in adjusting this plaster case. The greatest pains should be taken to hold the fragments in their proper position until the plaster sets, otherwise they may get displaced, when a new bandage will be required, or a deformity will be the result. The foot should be placed at nearly a right angle to the leg, especially if the fracture is at, or near, the ankle-joint. Little padding is required except about the heel and malleoli. Care should be taken that no wrinkles or folds be allowed to press upon the limb. The splint should reach the metatarso-phalangeal articulation below, and, as a rule, should extend above the knee, particularly in children, to prevent twisting of the fragments in their long axis, or, in other words, to hold the foot in its natural relation to the knee. It should embrace about three fourths of the circumference of the limb in order to give the desired support, and to retain itself in position.

This dressing is especially adapted to cases of simple fractures of the tibia, or of the tibia and fibula, which are not attended with serious injury to the soft parts, and in which no great amount of force is required to maintain the fragments in their proper place. It is very convenient in the treatment of these injuries in children. Applied under ether it is firm and solid before the patient awakes, and does not require frequent tinkering during recovery, as do many other appliances. The advantages of a dressing which does away with the pain and fright so commonly attending the ordinary treatment of fractures in children cannot be too highly appreciated.

Certain cases of compound fracture of the leg can also be satisfactorily treated with the plaster tray, if the soft tissues are not too extensively injured, and if the wounds be so situated that they can be exposed through apertures in the splint for purposes of cleanliness and local applications. For this class of injuries the bandage may be strengthened with strips of hoop iron, lined with oiled silk, and kept in position by means of straps with buckles.

Properly applied to the above-mentioned classes of injury the plaster-posterior splint is comfortable and efficient; it is self-retaining; it holds the fragments firmly in position; it allows the patient to be moved, or to move himself without danger of disturbing the fracture; it permits the parts to be readily examined; being opened throughout its entire length the bandage accommodates itself to the swelling of the limb without danger of strangulation; it can be applied immediately after the accident, there being no necessity for waiting until the inflammatory stage has subsided; it can be removed and readjusted with ease, and can be worn indefinitely.

The same rule in regard to opiates obtains here, as in all fractures, namely, they should never be given until the physician is reasonably certain that the dressings are doing no harm.

Contrary to the teaching of some authorities, the writer believes in frequent examinations of broken limbs until the fragments are so closely joined that they cannot be easily displaced. It must be a very exceptional case in which union is prevented by too much manipulation. Broken ribs and collar bones, though necessarily subjected to constant motion, almost always unite well. So do fractures complicated with delirium tremens, or excessive restlessness, or insubordination, in which the parts often sustain great violence.

If the physician would avoid deformed limbs, splint sores, and lawsuits, he must, by personal examination, keep himself constantly informed as to the position of the broken bones and the condition of the soft parts, even at the expense of considerable discomfort to the patient. Temporary pain caused in this manner is of little importance compared to the life-long mental and physical distress which may result from an unnecessary deformity.

The susceptibility to pain differs so greatly in individuals that it is not safe to rely wholly upon their sensations in determining the compression of a bandage. I once saw a case of gangrene of the foot, the result of a tight bandage, in which there was never any suffering. The only safety lies in watching the circulation of the toes, and in making careful examinations of the limb, being guided to a certain extent by the sensations of the patient. It is to be remembered that some persons with a fracture will always complain of pain, whatever treatment is followed. As these patients generally eat and sleep well, and remain in good condition, opiates are to be given sparingly, if at all.

The position of the fragments incased in the apparatus under consideration can frequently be determined by simply sliding the fingers along inside the splint without removing it. But to thoroughly examine the parts the tray must be forcibly sprung open and the leg carefully lifted out.

As plaster of Paris is brittle and not elastic, frequent removals of the dressing tend to weaken it. Whenever it becomes loose from this cause, or from wasting of the limb, it may be tightened with straps, or a new one may be applied. In many instances one bandage is sufficient for the entire treatment.

It is not necessary to weary you with details of cases which have been treated by the above method. Suffice it to say that not infrequently this dressing is applied to fractures of the leg at the City Hospital within twenty-four hours of the accident, and not disturbed until the fragments are firmly united and the recovery is complete.

The results obtained with this method of treatment are probably no better than those following the use of side splints, fracture boxes, etc.; but there is a great saving of time and labor to the surgeon. There is not that necessity for a frequent readjusting of splints and bandages, which is so essential with most other appliances.

The writer wishes it to be distinctly understood that this dressing is not adapted to all varieties of fracture of the leg. For example, some cases of Pott's fracture accompanied by marked eversion of foot, requiring strong pressure to restore and retain it in its proper position, can perhaps be better treated by other methods. So likewise may those bad cases of oblique fracture of the tibia, the fragments of which override each other to a great extent. Severe contusions of the soft parts should not be subjected to pressure until all danger of ulceration and sloughing has passed. The presence of blebs or blisters, however, does not neces-

sarily preclude the use of this dressing, as they may often be treated through an opening in the plaster.

It has always seemed to me that those physicians who permit their patients to move about on crutches a few days after an immovable bandage of any kind has been applied to a recent fracture of the lower extremity allow their enthusiasm to get the better of their judgment. The complications liable to occur during the repair of broken bones are so numerous, and at times so insidious, and suits at law for malpractice are so common, that in my opinion no adult should be allowed to move about until there is fair union of the tibia and fibula, which usually requires from four to six weeks, and very little weight should be put upon the limb for some time longer. There can be no doubt that deformity occasionally takes place in these cases from the patient's getting up too soon, while the union is green, thereby allowing the fragments to gradually yield under the weight of the body.

Those cases of fracture of the lower end of the fibula and rupture of the deltoid or internal lateral ligament of the ankle, accompanied with an outward dislocation of the foot, are often very difficult to manage, and require a longer confinement than any other simple fracture of the leg, three or four months being necessary in some instances to insure sufficient repair to prevent future deformity. In some of these cases it is impossible to avoid a little eversion of the foot, whatever may have been the treatment and however long it may have been continued. The writer has seen a recurrence of the dislocation after three months' confinement. He has also seen two or three cases in which the inner malleolus had been exposed by ulceration due to a return of the deformity, after a fair union had apparently taken place. He would never permit a person weighing one hundred and fifty pounds to bear his weight upon a Pott's fracture under three months, and the greater the weight the longer should be the period of rest.

A different line of treatment, however, is called for in some cases of fracture of the shaft of the long bones, more especially of the femur. When the union is imperfect at the end of three months or thereabouts, nothing does so much good as to incase the limb in an immovable bandage and get the patient up on crutches. The local irritation which results from this practice tends to excite the reparative process to that degree that the fragments become firmly united within a comparatively short time.

In conclusion allow me to say, that while I do not think the plaster-posterior splint is adapted to all fractures of the leg, yet in the classes of cases specified in this paper I most heartily recommend it, hoping that a fair trial will convince some surgeons, as it has the writer, that the dressing combines more good qualities and fewer bad ones than any of the common appliances in use at the present time.

[A practical demonstration of the plaster-posterior splint was made before the Society by Dr. R. A. Kingman, of Boston, who perfected and brought it into use in this vicinity while he was house surgeon at the City Hospital in 1881. The efficiency and popularity of the splint are largely due to Dr. Kingman's skill and ingenuity.]

— One eighth of a drop of croton oil in pill three times a day is DaCosta's treatment for saturnine constipation.

REPORT ON LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M. D.

PARALYSIS OF INDIVIDUAL FIBRES OF THE RECURRENT LARYNGEAL NERVE.[1]

IN Nos. 46–49 of the *Berliner klinische Wochenschrift*, Dr. Felix Semon, of St. Thomas's Hospital, has communicated an exhaustive paper on the proclivity of the abductor fibres of the recurrent laryngeal nerve to succumb earlier than the adductor fibres, or even exclusively, in all forms of organic disease or injury, central or peripheral, acute or chronic, which concern the motor nerves of the larynx. The general validity of this law he first stated in the *Archives of Laryngology*, July, 1881. In the papers now before us there are notes of fifty-eight carefully observed cases, with twenty-one necropsies, all of which are in strict accord with the statements Dr. Semon has made. Many of these cases have been under the author's own observation; the remainder have been reported by men of the highest reputation, and, so far, no well-authenticated case has been brought forward which would invalidate his conclusions. The undoubted occurrence of transitory and varying isolated paralysis of the abductors, which, Dr. Semon has always contended, is characteristic of functional disorder of the motor nerves of the larynx in cases of soft lymphatic goitre, is only seemingly contradictory to his teaching, as these paralyses can be explained on the theory of transitory anæmia of certain regions of the brain. The occurrence of an isolated paralysis of the abductors from central causes can only be understood on the assumption that the nucleus of the spinal accessory nerve consists of strictly differentiated ganglionic cells; and the author points out that the proclivity of the laryngeal abductors to succumb to organic disease is not a pathological curiosity, but, as Ferrier has shown in reference to the abductors and extensors of the body, a part of a general law. In conclusion, the author lays great stress on the diagnostic importance of this proclivity. He shows, practically as well as theoretically, that, in pure unilateral paralysis of an abductor, there is no alteration either in voice or respiration, so that, unless a laryngoscopic examination is carried out as a matter of routine in all cases of evident or suspected organic disease of the brain, neck, or thorax, an early and sometimes the only symptom may escape notice; and he claims, under these circumstances, for the laryngoscope the position occupied by the ophthalmoscope in the diagnosis of renal and cerebral disease. If, as it would appear from this careful and exhaustive paper, the foregoing statements are unexceptional, there can, indeed, be no doubt of the extreme importance of this fact in anatomical and physiological as well as in diagnostic respects.

APSITHYRIA.

Some years ago Dr. Solis Cohen, of Philadelphia, reported, under the title of apsithyria, several cases in which there was complete inability to whisper, as well as aphasia, a condition to be carefully distinguished from that in which the inability to whisper is only apparent, and in which, on placing the ear close to the patient's mouth, or by using an ear-trumpet, a more or less feeble whisper can be detected. The author has

[1] British Medical Journal, December 8, 1883.

recently returned to the subject in a paper in the *Philadelphia Medical and Surgical Reporter* of November 10 and 17, 1883, and records another case of this rare affection. An unmarried lady, aged forty, was seen on November 22, 1881. For fifteen months her voice and whispering power had been absolutely lost, the double infirmity compelling her to resort to tablet and pencil as her only means of personal communication. In February, 1879, she had suffered from pneumonia, which had left her aphasic; for about eighteen months she had been able to talk in a whisper, but not since. Laryngoscopic inspection revealed paralysis of the arytenoid muscle, and of both lateral crico-arytenoids. The patient was debilitated, dispirited, languid, and hypersensitive; also very deaf. The treatment consisted in the internal administration of sulphate of strychnine in gradually increasing doses, and in daily topical applications of electricity to the paralyzed muscles of the larynx, to some of the voluntary muscles of respiration, to the muscles of articulation, and to the region traversed by the pneumogastric nerves in the neck. In three weeks the ability to whisper was restored to such a degree that the tablets were given away, and have not been used since. At the end of about two months her voice began to improve, but would only reappear for a short time. After several relapses it was finally restored permanently.

Apsithyria is usually found in females, but the author has seen it twice in the opposite sex. Once it occurred in a male religious fanatic, aged about forty, in whom aphasia and apsithyria had been complete for several months. One application of the interrupted current to the vocal cords cured the aphasia and apsithyria at once. The case was evidently hysterical. And once in a man aged above thirty years, who was not at all hysterical, and in whom the aphasia accompanying the apsithyria was due to paresis of the arytenoid muscles. This patient recovered under a tonic and electric treatment. In all cases which the author has seen the ability to whisper was last lost and first regained. The aphasia with which apsithyria is associated is always, according to the author, due to a functional paresis, and is not myopathic in origin. The apsithyria is apparently paretic too, he thinks, but where the seat of the paresis is is uncertain. The author suggests that it is in the muscle of the diaphragm. It is not in the other muscles of involuntary respiration, for their functions exhibit no evidence of impairment; nor is it in the muscles of the tongue and lips, for voluntary control over these muscles is sufficiently well maintained. Voluntary expiration can usually, according to the author, be effected; but the expiratory current cannot be emitted with the force sufficient to make a sound. These patients seem to make an effort to whisper, consciously and conscientiously, but they fail.

THE PERI-TRACHEO-LARYNGEAL GANGLIONS.[1]

The authors of this interesting article consider that the importance which these lymphatic glands play in causing certain vocal and respiratory functional troubles of the larynx entitle them to a more detailed description than they have received in the works on anatomy. The name of peri-tracheo-laryngeal glands is given to designate those glands which are situated in the cervical region, between the inferior and posterior portion of the larynx, trachea, and œsophagus. They are in the immediate vicinity of the recurrent nerve, and are separated from the vertebral column and pre-vertebral muscles by an abundant and loose cellular tissue. This study is founded upon twenty dissections, both normal and pathological, and the following are the more important points established: These glands, following the course of the recurrent nerve, form a chain, and are arranged generally in three groups: —

(*a*.) The inferior group, the largest and the most constant, is continuous with the mediastinal glands.

(*b*.) The middle group, less constant than the preceding, is composed of glands so small that they may escape notice.

(*c*.) The superior group, situated near the inferior and posterior part of the larynx, is perhaps less constant than the middle group, and composed also of very small glands.

The three groups may unite and form a continuous chain. Occasionally one of the superior groups is absent. In tuberculous, cancerous, and possibly syphilitic subjects, they may become greatly hypertrophied. The symptoms arising from compression of the nerves by these glands are due either to paralysis of the vocal bands or to spasm of the glottis.

THE CLINICAL SIGNIFICANCE OF THE ACUTE SUBCHORDAL SWELLING AND THE ORIGIN OF THE CROUPY COUGH IN LARYNGITIS.[2]

Any point which will serve to make clearer the vexed consideration and classification of the various diseases characterized by hoarseness, dyspnœa, and barking cough in children is worthy of attention. Dr. Karl Dehio, the assistant of Dr. C. Rauchfuss, in an article made interesting in great part by the cases detailed, believes that he has demonstrated an ætiological factor which has not yet received much attention. Rauchfuss was the first to draw attention to the swelling of the membrane below the vocal cords as the cause of the stenosis in the laryngitis in children. Türck had made mention of such swelling in 1866, but no attention had been paid to it. Burow reported a case in 1877, and in Ziemssen's work this case, with two from Rauchfuss and two from personal observation, was described under the head of Laryngitis Hypoglottica Acuta Gravis.

Dehio's task has been to connect clinical symptoms with laryngoscopic appearances. From the large material of Rauchfuss's clinic he has made a series of laryngoscopic examinations in all cases of acute laryngitis where it was possible. He found well-marked subchordal swelling in cases of (*a*) simple *barking* cough. (*b*.) Barking cough, dyspnœa, but no loss of voice, all much less marked in four hours, and about well in twenty-four hours, showing how rapidly the swelling may disappear. Vocal cords not affected. (*c*.) The same symptoms coming on very rapidly in a younger child, accompanied with great dyspnœa and all the symptoms of false croup. Examination showed the same subchordal swelling, but here in the narrow larynx causing more nearly complete obstruction. (*d*.) Slight general laryngitis, with barking cough, and not much change of voice. (*e*.) Acute catarrhal laryngitis, with barking cough, but no change of voice or alteration in appearance of edges of cords. (*f*.) Acute laryngitis complicating morbilli, and accompanied by

[1] Étude anatomique et pathologique des Ganglions Péri-trachéo-laryngiens. Par le Dr. Gouguenheim et M. Leval-Picquecheff. Annales des Maladies de l'Oreille, du Orynx, etc, Mars, 1884.

[2] Dehio. Jahrbch. f. Kindhlkde, xx. B., 3 H.

barking cough and larynx stenosis. (*g.*) Laryngitis subchordalis with protracted course, and resulting in subacute laryngitis.

It may be seen from these few selections from the author's many cases that his subchordal swelling plays an important rôle in many of the laryngeal affections of children. The swelling is the puffing out of the inflammatory, œdematous infiltration of the submucous tissue, which in exactly this region is looser and richer in interstitial spaces than in any other part of the larynx. When the swelling existed alone, and was not great enough to close the larynx, the only constant symptom was the barking cough. When the larynx was closed this was accompanied by the symptoms of stenosis. These two may be regarded as the clinical manifestations of laryngitis subchordalis acuta. The cough was present in every case where the swelling was found, and in one case the mirror showed clearly that at the instant of coughing, the cords being widely separated these subchordal swellings were themselves thrown into vibration, thereby producing the barking tone.

The author believes that the seat of acutely arising laryngeal stenosis is in the subchordal region, and the real barking cough to be pathognomonic of subchordal swelling.[1]

CATARRHAL LARYNGITIS.[2]

Jonathan Hutchinson, F. R. S., etc., in the course of an address on Collective Investigation of Disease, made the following remarks: I do not think that enough is known about catarrhal laryngitis. It appears to me to be a very definite affection, in minor forms tolerably common, but in its severe ones rare. It is, in a certain way, quite distinct from croup, being entirely non-membranous. It seems to me to be more common in adults, or in those past middle life, than in others. There is a tradition that Washington died of it. Acute œdema of the larynx is scarcely a suitable name for it, since it may be produced by a variety of causes, whereas the malady to which I desire to call attention is always due to exposure to cold, and always obeys the law of true catarrhal affections in passing off completely and rapidly if the patient survive. In almost all the fatal cases which I chance to remember the cold was caught by going to church, and all were in men past middle life. In one, a gentleman of fifty-five, who but one year before had insured his life for a very large sum, being apparently in excellent health, died on a Wednesday, having caught his cold on the previous Sunday evening. In this case the death was in spite of laryngotomy, and it is possible there was pneumonia also. In the last which I have seen, and the one which has made the greatest impression on my mind, the patient, a gentleman of fifty years, attended an evening service in cold, wet weather, complained of his throat immediately afterwards, had paroxysms of extreme difficulty of breathing, and died in one of them, within forty hours of his having joined in the duties of the choir. So distinctly paroxysmal had been his dyspnœa, and so complete the remissions, that he died in his clothes, not having gone to bed. This feature of complete temporary relief had led his medical attendant into the mistake of telegraphing for me to do tracheotomy instead of at once doing it himself. The patient in the end died before either of us could get there. We were allowed to examine the body within an hour of death, and found the larynx and adjacent parts in a state of extreme congestion, with much œdema, but without a trace of membrane. I by no means insinuate that catarrhal laryngitis has been wholly neglected in systematic works, but I feel sure, from much conversation with those of large experience, that collective investigation would be likely to bring out its features much more definitely, and to add an important chapter to the clinical history of catarrhal ailments in general.

[1] American Journal of Obstetrics, December, 1883.
[2] British Medical Journal, November 3, 1883.

SORE THROAT IN CHILDREN.

Dr. Ashby, in the *Practitioner*, December, 1883, contributes an able article on the necessity of examining the fauces in children suffering from the different acute specific fevers. The more important forms of inflammation of the throat in children are classified under four heads: (1) simple catarrhal tonsillitis; (2) scarlatinal tonsillitis; (3) pseudo-diphtheritic tonsillitis; (4) diphtheria. In diphtheria the characteristic appearances are usually well marked about the pharynx, but there are some points which aid one greatly in deciding whether the attack is diphtheria or not. Amongst these a swelling of the cervical glands with cellulitis, or perhaps a fetid discharge from the nose, is a point strongly in favor of diphtheria. Again, the pulse is weak, the temperature is not high as a rule, the urine is loaded with albumen, and there is no rash to make one confound the attack with scarlatina. In diphtheria the onset is insidious, in scarlet fever it is sudden, and is nearly always accompanied by vomiting, often by diarrhœa. In simple catarrhal tonsillitis the onset is sudden, and the temperature rises the first evening to about 103° F., the tonsils are equally swollen, and in a few hours yellow spots make their appearance, owing to the retention of the secretion in the crypts. There is no true ulceration of the tonsils, nor sloughing of the soft palate, nor cellulitis around the cervical glands. The pseudo-diphtheritic form often resembles true diphtheria very closely, but the cervical glands are not swollen, and there is no albumen in the urine.

(*To be concluded.*)

Hospital Practice and Clinical Memoranda.

DR. J. COLLINS WARREN'S NEW OPERATION FOR RUPTURE OF THE PERINÆUM THROUGH THE SPHINCTER.

BY FRANK K. PADDOCK, M. D., PITTSFIELD.

On the 2d of March last Dr. A. M. Smith, of Pittsfield, invited me to see one of his patients with him, and consider the feasibility of performing an operation for lacerated perinæum.

The patient was thirty years of age. She had given birth to two children. The first was delivered with instruments four years previously, and did not live. The rupture occurred during this first confinement, and ever afterward she had no control of the movements of her bowels, and complained of dragging pains through her back and hips and difficulty in walking.

The second child was ten months of age, and in good health, there having been about three years between the first and second confinement.

[3] Arch. für Path. Anat. und Phys. und für klin. Med.

On examination, found the perinæum and sphincter ani torn entirely through; the recto-vaginal septum was obliterated for the distance of an inch and a half above the anus.

I advised the operation, and the patient wisely concluded to have it done at "the House of Mercy" (the Pittsfield Cottage Hospital), where she could receive the care and attention of Miss Field, the skilled nurse and matron of that institution.

I performed the operation recommended by Dr. J. Collins Warren, which consists of dissecting a flap from the posterior vaginal wall and the sides of the perineal rent, and turning this flap downward, so that the vaginal mucous membrane becomes the anterior wall of the lower part of the rectum and anus.

Six silver wire sutures were introduced and twisted. The upper one was passed through the vaginal mucous membrane, so as to draw it down into close contact with the anterior portion of the wound.

The sphincter ani was well stretched before introducing the first suture, and it closed around the flap with very little tension.

The catamenia appeared on the third day after the operation, and lasted three days.

The sutures were removed on the twelfth day, and the bowels were moved by an enema on the fourteenth. On the twenty-first day a thorough examination was made, and the wound was found united throughout, and the patient was allowed to sit up. A recent examination found the sphincter and perinæum entirely restored, the uterus in its normal position, and the movements of the bowels perfectly natural in every way.

The treatment subsequent to the operation was that usually observed; the urine was drawn for sixteen days, and the vaginal douche used four times daily.

The diet consisted entirely of beef juice and coffee, for two weeks; milk was not allowed. The first movement of the bowels on the fourteenth day was as soft as an infant's.

There was very slight rise in temperature on the third day, 100½° F. Only one dose of one fourth of a grain of morphia was given shortly after the operation.

The regular catamenial period occurred one week before the operation. The recurrence the third day after the operation was undoubtedly induced. That portion of the flap which protruded from the anus sloughed.

New Instruments.

A NEW POWDER BLOWER.

BY WALTER J. OTIS, M. D.

I WISH to call attention to Codman & Shurtleff's modification of the powder blower which I exhibited at a recent medical meeting.

The instrument here figured consists of a soft-rubber bulb, to which can be attached hard rubber tubes (A, B) of various lengths and shapes. The bulb is flattened at one end, so that it will stand upright, and is provided with a small stopper (C), to prevent the entrance of air as well as the escape of the powder when not in use. Powder may be introduced into the bulb either through a small funnel or by suction.

The instrument is manipulated by the thumb, placing the tube between the first and second fingers; or



if desired, the powder can be shaken out. This will be found a useful and handy means of insufflation in such localities as the mouth, vagina, or rectum; a separate bulb, properly labeled, being kept for each powder.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

ADJOURNED SPECIAL MEETING.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M. D., SECRETARY.

MAY 21, 1884.

Meeting called to order at eight P. M., DR. R. T. EDES in the chair.

The SECRETARY read a communication which he had received from the Boston Society of Arts, inviting this Society to attend a meeting of that body at the Massachusetts Institute of Technology to listen to a description of the system of heating and ventilation which has been adopted in the New Building of the Institute, and which possesses many points of interest, some of which are novel.

The CHAIRMAN then introduced the subject for this meeting, which was the continuation of the discussion upon the

EPURATION OF SEWAGE BY IRRIGATION AND AGRICULTURE,

the first discussion of which took place April 30th, and is reported in the JOURNAL, vol. cx., page 609.

MR. ELIOT C. CLARKE was first called on, and spoke as follows: "Much has been said lately of the successful disposal of sewage at Pullman, Ill., by land irrigation. It affords almost the only instance in which it is claimed that pecuniary profit has attended such a method of disposal. I have recently visited this sewage farm, and the result of my observations there may be interesting to the Society.

"Land irrigation was adopted at Pullman, not with the hope of profit, but from necessity, there being no other practicable means of getting rid of the sewage except at enormous expense. House sewage only, of which there is a daily supply of about 200,000 gallons,

is disposed of by irrigation. Rain and water used for mechanical purposes are not mixed with the sewage proper but are discharged into Calumet Lake.

"The whole sewage farm consists of 1500 acres of flat prairie, situated within two miles, or less, of the town. Of this area, however, only 150 acres were used last year in purifying and utilizing the sewage, the remainder being held for future use, or cultivated without the application of sewage. The soil is a rich loam underlaid by sand. The portion to which sewage is applied is all underdrained by pipes about six feet below the surface. About ten acres are prepared as filter beds, being more carefully underdrained than the rest, and this tract disposes, by filtration, of the sewage at such times as the crops need none or would be injured by it.

"The crops to which sewage is furnished are, chiefly, celery, cauliflower, cabbage, and other kinds of garden produce which flourish with a copious supply of water. The sewage is only applied to them at such times and in such quantities as is beneficial, principally in the morning and evening, during dry weather. Some crops, as potatoes, never receive any sewage, since it is found to injure them. The superintendent, Mr. Martin, thinks he gets earlier and better vegetables than he would from land that was not irrigated. He also believes (without special opportunities for comparison) that the crops do better with sewage than they would if simply irrigated with pure water, that is, that the sewage acts somewhat as a manure. It is evident, however, that it does not act as other manures do, because he finds that it injures the land to apply sewage to it longer than for one season. After one season's application the sewage should be omitted for a year and the land, instead, enriched with barn-yard manure.

"The profit last year from sale of crops grown on that portion of the farm irrigated with sewage was about $5000. The superintendent thinks that, had it not been for early frosts, the profit would have been $7000. In calculating this gain, however, no charge was made for rent of the land or for interest on the cost of draining and otherwise preparing it, or for the machinery and other plant necessary to raise and convey the sewage to the farm, or for fuel and attendance on the pumping engines. These items would have largely exceeded the calculated profit, so that had it been possible to have discharged the sewage by gravity into some neighboring body of water it would have been much cheaper to do so.

"Under the circumstances the result is very satisfactory. The town gets rid of its sewage without creating any nuisance. No trouble has been experienced in winter. During very cold weather an inch or so of ice forms on the surface of the filter beds, but the ground beneath remains open and the sewage soaks away. Thus the primary object of the farm, which is to get rid of the sewage at all times, is satisfactorily accomplished, and, in addition, the land is cultivated, and the value of the crops produced exceeds the cost of cultivation.

"While the result at Pullman is encouraging for those towns which are compelled to purify their sewage on land there is nothing in it to commend sewage farming to towns which can discharge into water without doing any harm thereby. The conditions for sewage farming would rarely be so favorable as they are at Pullman. At that place a comparatively small amount of sewage is to be disposed of, and close at hand is available an abundance of cheap but rich farming land, perfectly flat, and with soil especially adapted to the purpose.

"In Boston the territory south of Charles River furnishes, in dry weather, one hundred times as much sewage as Pullman. If the same ratio between acreage and sewage were preserved, Boston would need a farm of 15,000 acres, an area as large as the city proper, South Boston, Dorchester, Roxbury, Brookline, and Brighton. It is needless to say that no such area suitable for the purpose can be found within accessible distance.

"The sewage of Pullman is about three times as dilute as Boston sewage, but otherwise appears to be the same material. It is allowed to flow on to the land each morning and evening unless rains occur, when it is not used so frequently.

"The effluent water is clear and free from smell or taste, and fish are found at the outlet of the filter beds, which is considered possible only in pure water. At the opening of the sewers there is a perceptible odor, but it is the smell of fresh sewage, and not that of decay or decomposition. The superintendent of the farm resides at a short distance from the filter beds, and suffers no inconvenience from their proximity to his dwelling, and his family have never been afflicted with any disorder attributable to that cause. The centre of the farm is between one and two miles from the centre of the city."

DR. FAXON stated that he had listened with much satisfaction to the discussion, but that one element existed in American sewage which was not found in that of any European system. The sewage of every American city is loaded with tons of grease, which materially interferes with its utilization in the same manner as is followed in other countries. The greasy contamination forms a solid crust in the upper layers of the soil, which the roots of plants cannot penetrate. The Pullman farm is far from representing the actual results of such a system in its more extended adoption. The sewage from Boston is at present discharged into tidewater, but the nuisance of sewage pollution is not removed. A certain portion of Boston sewage comes to the shores of Quincy Bay, and is already creating a nuisance along the beach in that vicinity. From the windows of the Sailors' Home at that place can be seen a layer of sewage many acres in extent upon the surface of the water between that point and the neighboring islands. As summer approaches the sludge becomes more abundant, and is thrown up on the shore, where its stench becomes intolerable. Some other method than the present must ultimately be adopted for the disposal of the sewage of Boston.

If an engineer were requested to designate a perfect system of sewerage it is quite impossible to say what method would be recommended, but at present, everything taken into consideration, filtration seems to be the most available method known.

In reply to Dr. FAXON MR. CLARKE said: "This is the first intimation I have had that the Sewage Works at Moon Island create any nuisance or are likely to. Those who live on the island experience no discomfort. I have seen some sludge about the outlet, and there are places on the Works where one can get the odor of sewage. That was to be expected. The sewage which is discharged at Moon Island formerly emptied at fifty outlets in Boston, and made fifty nuisances close to residences, places of business, hospitals, bathhouses, etc. It has not been changed to cologne water by being diverted to Moon Island. But I do not be-

lieve that any nuisance will be created there which can possibly affect any one not living on the island.

"Although a little of the sewage may deposit near the outlet, almost all of it goes out of the harbor. It follows an unvarying course between Long and Rainsford Islands, and none of it ever turns into Quincy Bay. Its outward course can be distinctly traced for about a mile, but at a little greater distance from the outlet the dilution with salt water is so great that all trace of the sewage is lost."

DR. MARCY inquired of Dr. Faxon the reason why he believed the fatty matter of sewage caused the soil to mass together and thus, as stated, prevent penetration by the rootlets of plants. Dr. Marcy questioned if this could really be true, since the fatty materials of sewage are chiefly animal, and it is well known that these rapidly and easily undergo fermentation and decomposition, setting free the fatty acids at ordinary temperatures. Thus these compounds are taken to pieces by the action of the bacteria and fitted to serve as plant food. Dr. Marcy inquired as to the filtrative power of the soils as shown in the experiments of Dr. Faxon and at the Woman's Prison, saying we must bear in mind that for about six months of the year in our latitude there is very little vegetation, and provision must be made for winter sewage. Contrary to the usual belief, sand makes a most unreliable filter.

MR. EDWARD S. PHILBRICK, C. E., spoke as follows: "The subject under discussion is a very broad one, and I shall therefore limit myself to the question of applying the sewage of *Boston* to irrigate the soil. While not wishing to be understood as opposing the system of irrigation by sewage in general, and while recognizing the importance of making strenuous efforts to prevent the pollution of water supply by a reckless discharge of sewage into natural water courses,[1] I will refer to some of the obstacles which tend to render sewage irrigation a difficult plan for this city.

"The money value of the solid and dissolved ingredients of sewage has been urged by many persons who have investigated the subject. Many skilled investigators have devoted their attention to this question, particularly in Europe, within the past ten years, and we have much information from that source as well as from the experiments made by European towns in the disposal of their sewage by irrigation.

"But the money value of the ingredients of sewage is by no means the only question of importance in the consideration of its disposal. It has often been found in developing mines that the number of pounds of copper or silver in a ton of ore, as determined in the laboratory by assay, is but a poor guide in deciding upon the value of the ore or the mine. We must also know what it costs to stamp, wash, and smelt the ore and refine the metal that exists in that ore before its commercial value can be established. So in the disposal of sewage by irrigation it has often been found impossible to recoup the cost of the process by the product of the farm. The disposal of the sewage in some *innocent* way is necessary to the welfare of the community, so that for sanitary reasons such a course may often be the very best, though no source of profit, simply because it is the cheapest way of getting rid of a dangerous material; but it should not be regarded as likely to be *profitable* as a commercial undertaking, except under the most favorable circumstances.

"The difficulties met with are such as these: Plants that are useful as farming products do not tolerate a constant saturation of the soil they grow in. Therefore a sufficiently large area of soil must be treated to allow of applying the sewage on alternate fields, so that one may be receiving it while it is soaking away on the other. Even then we find that the plants which need a copious supply during a certain stage of their growth need much less at other stages when approaching maturity. We find, too, that the crops which are benefited by a large quantity of fluids in a dry month would be destroyed if an equal amount were put on the land in a rainy month. Now since the flow of sewage from any city is likely to be rather more copious in a rainy period than in a dry one, even though pains may be taken to exclude the rainfall from the sewers, the crops are often drowned with sewage at one time while getting barely enough to supply their wants at another. For this reason those sewage farms have been most successful where the farmer was not obliged to take the *whole flow*, but merely what he desired from time to time.[2]

"In order to make sewage irrigation successful the land must be located favorably, must not be too steep in its declivities, and must be had at low rates of cost, that is, consistent with prices paid for other farm lands. Such a surface is not easily found near Boston.

"However great the advantages of irrigation may be to certain crops, it is not so applicable to hoed crops as to the grasses, for the reason that irrigation puddles the surfaces, which unless very sandy cakes and hardens when drying, requiring frequent hoeing to pulverize the soil. Therefore it has been found that Italian rye grass is the best crop for sewage irrigation. But this is a crop which is poorly adapted to our climate and is of little value except for soiling cattle. Moreover we have in this climate at least six months of every year when no such crop can be grown, while the flow of sewage is continuous during the year."

MR. DESMOND FITZGERALD, C. E., said that the improved system of sewerage for the city of Boston was so designed that if it should ever be found desirable to utilize the sewage, it could be done, but that in the present experience of dealing with as large a quantity of refuse water as that now supplied by Boston, and considering its highly diluted state, it would be a great waste of money to attempt any scheme of utilization. In regard to inland towns situated on the borders of water-sheds used for sources of water supply, the case was, however, far different. Here very small amounts of sewage had to be dealt with, and there was little doubt in his mind that some scheme either of filtration or irrigation could be successfully applied. The speaker did not intend to use the word success in a pecuniary but in a sanitary sense.

Mr. FitzGerald proceeded to describe the actual condition at the present time of the several sources of supply of the city of Boston, and of his attempts to preserve the purity of the same. He showed that the time had now arrived when some principle of action must be assumed. Either the brooks must be given

[1] It seems to me that Dr. Barnes has informed himself chiefly by *reading*, and that his reading has embraced only one side of a question which has been attended with a very warm *partisan* discussion in England lately. I hope its discussion here may be more deliberate and of a broader character. One thing is certain in my mind, namely, that it is a *local* question very largely, and that *patent systems* are no more likely to be widely applicable in our profession than in your own, and for similar reasons.

[2] The success of the Genneviliers sewage farms, as I am informed, is attributable to this fact, that the delivery of sewage to the farmer was at his option and not obligatory. Such a system can never be a reliable source of relief to a town so long as any considerable portion of its sewage flow is liable to be left undisposed of in a wet day.

up to the towns for common sewers or the towns must be made to take care of their sewerage in a proper manner.

The speaker went on to show that the brooks are now used for drainage only by those people who happen to own land on the margins, while the neighbors immediately adjoining have to provide for their sewage by emptying their cesspools, etc., and the hardship and injustice of this is not denied. Mr. FitzGerald described the works at Sherborne, which are sub-surface irrigation combined with intermittent downward filtration. He said the works had been very much misrepresented, and that while no filtration system removed the chlorine, yet the effluent water was clear and inoffensive to the eye or smell, and practically the filthy condition of the sewage is very materially improved. The speaker agreed with the statements made by Mr. Ernest W. Bowditch at the last meeting, that no cast-iron rule could be made to suit all cases, but that as the circumstances and situation of every town were different, so a study would have to be made of each case and that system adopted which best suited its peculiarities.

DR. JOHN G. BLAKE remarked that, looking at the subject from the health stand-point alone, it was becoming every day more necessary that some solution of the sewage question must be attempted if the health of communities as affected by their water supply was to be considered. What is wanted to hasten the solution of the subject is a law compelling towns bordering on rivers, ponds, and lakes to make some other disposition of their drainage than to allow it to run into these as receptacles. Up to the present time it has been impossible to convict offenders, but during the past winter a law, more stringent in character and free from the defects in previously existing laws, was passed, and under it, action to punish offenders will soon be commenced and pushed vigorously. From what had been said on the subject Dr. Blake is inclined to think that irrigation might prove itself very well adapted for small country communities without any regular system of drainage. The question of profit might well be left for later discussion, and the only point deserving consideration was the disposal of their sewage at the least expense and in such manner as to prevent its becoming a source of injury to themselves and others. Inasmuch as eighty cities and towns are moving to supply themselves with water, the importance of this subject had become very much magnified, and action looking to a remedy must soon be taken.

DR. BARNES, in closing, said: If the theories advanced in opposition to the employment of irrigation and agriculture for the epuration of sewage had not been used in Europe, and finally overcome by actual experience, one would hardly feel like continuing to advocate this system for Massachusetts. My enthusiasm, however, does not carry me so far as to suggest even a possibility of the abandonment of Boston's system of intercepting sewerage, notwithstanding the probability of its polluting the lower harbor and producing an unsanitary condition similar to that of the upper harbor, and an annoyance to the people living on the south shore, for before this condition is reached it may fairly be anticipated that irrigation and agriculture will have proved here, as in Europe, an economical and practical method of epuration. The sewer can then be extended to the main land and discharged on the soil. "It will not be possible, however, to connect any territory adjacent to Boston with this system without constructing an additional tunnel under Dorchester Bay." This is the language of one of Boston's officials a few weeks since before a committee of the Legislature. Filtration has, in numerous instances in Europe, accomplished complete clarification of sewage, and yet the analyses show the effluent water to contain from one half to six sevenths of the original amount of polluting matter. Colonel Waring's system of filtration at the Women's Prison accomplishes all that is possible, and yet the analyses show the result to be far from satisfactory. Pasteur and Shloesing, with others, sign a report to the Parisian government in which is stated, "The system of epuration by soil is the only one yet demonstrated to be a success. The discharge should be intermittent, and with methodical rotation, and the doses should be determined by analyses of the effluent water."

At Dantzic is encountered a mean winter temperature about that of our own. Irrigation is continued throughout the year with quite as much success in epuration in winter as in summer, and at all times without offense.

The "winter basins" at Breslau are not a part of the system advocated, as they involve the stagnation of sewage.

"The rosy coloring" of the Gennevilliers farms was not my own painting, but the translation of a report by a commission appointed by the city government of Paris, to whom, it seems to me, ought to be accorded the credit of knowing the facts, particularly as the report was unanimously signed. These gentlemen say "the increase in valuation and population at Gennevilliers is due to farmers coming from other parts of France to share in the general prosperity." Durand-Claye says "the population of Gennevilliers has increased thirty-four per cent. in five years by the arrival of numerous cultivators." M. Joly says of the Gennevilliers farms: "The question, scientific and practical, is absolutely solved." And Dr. Loiseau, at the Geneva Congress, in 1882, said "the benefits derived from these farms are indisputable from every point of view."

I was amazed at the statement that no person knew the cost of the Gennevilliers farms, as I have in my library an official document of Paris pretending to give every item of expense from the first experiment at Clichy, in 1867 and 1868, down to 1882, including lawsuits and large indemnities paid for an unfortunate experiment.

In regard to the city of Pullman making arrangements to pump the sewage into the lake I have the following letter from the superintendent of the farm: —

RIVERDALE, COOK COUNTY, ILL., *May* 9, 1884.

DEAR SIR, — If any such arrangements as you speak of in yours of 6th inst are being made I have no knowledge of the fact. The sewage is thoroughly purified by filtration, creating neither offensive odor nor nuisance of any kind.

The farm, last year, paid over six per cent. profit on the money invested ($80,000), and we hope this year to do even better. Consequently there exists no necessity for any such change as you speak of.

Very respectfully, E. T. MARTIN, *Superintendent.*

HENRY J. BARNES, M. D., BOSTON, MASS.

It should be mentioned here that downward intermittent filtration is a valuable auxiliary to sewage farming. I. Bailey Denton has written considerable upon this branch of the subject. I regret not knowing the history of the Pullman farm, as I should like to

pay a proper tribute to the pioneer of this system in America.

The unprofitable results of sewage farming have been dwelt on by most of the opponents of the system, forgetting that it is a question of sanitation and not of making money, and if raising vegetables contributes in any degree to lessening expenses it takes precedence in a financial point of view of all others, as they make no return for the original outlay except the almost universal offense they create.[1]

It has been a long and costly struggle to demonstrate the fact that sewage can be epurated by irrigation and agriculture. Every conceivable danger has been predicted. And many are the unfortunate and disastrous experiments which can be cited as swelling the cost above the possibility of many of the farms earning interest on the plant. To obtain an act of Parliament authorizing the establishment of a sewage farm often requires the expenditure of £10,000. Litigation and land damages, another large amount, for land is very dear in England. The heavy clay soil demands a large expenditure for drainage. But notwithstanding these obstacles the number of farms has rapidly increased, until now there are at least two hundred.

The Royal Commissions recommend the enactment of a general law authorizing farms of this character.

In 1876 Messrs. Chesbrough, Lane, and Dr. Folsom, Commissioners reporting on the sewerage of Boston, say "the Edinburgh farms are profitable." One of the commissions appointed by the Parisian government declare the sewage farms at Gennevilliers profitable, and use this as one of the arguments in support of their recommendation to the city to purchase the State lands in the forest of St. Germain. The owner of the farm at Leamington (which, by the way, has not been leveled) as well as the superintendent of the farm, claim a good profit after paying the city $2250 per year for delivering 1,000,000 gallons each day at the highest point of the farm.

Mr. Aird could not have lost a large amount of money in his contract to take the sewage of Dantzic, for some years later he made a similar contract with the city of Breslau. But it ought not to be required of the friends of this system to show profit until at least one system is devised capable of competition with this in producing satisfactory epuration.

The enormous dilution of sewage in this country is mentioned as an objection. By analyses the amount of organic matter in the sewage of American and European cities varies but a trifle. Boston consumes more water per capita than Paris. But the latter city dilutes her sewage equal to that of our own by a lavish use of water in washing the streets each morning. And the estimate of three barrels of water to the discharge of one individual here does not include the organic matter constantly discharged from sink drains or the street washings. Durand-Claye, the celebrated French engineer, to whom the world owes a debt of gratitude for demonstrating the possibility of epuration by this method, says, "It is desirable and necessary that there should be a great dilution by water in order to insure rapid transit."[2]

The soil does not clog where systematic irrigation is practiced. The thin skin of impervious deposit, when dried, shrinks, cracks, and breaks up, the organic matter decays, and the soil is more pervious than where irrigation is not employed. Reservoirs of deposit are used to eliminate the coarse particles, as their decay on the surface would cause an offensive odor.

It is highly probable that the failure mentioned as resulting from an impervious deposit where "sewage was pumped on a garden," was due to puddling. And that it is an unnecessary accompaniment to irrigation is proved by the employment of this system at Buntzlau on fifteen hectares for over two and a half centuries, and at Edinburgh for over two centuries, without diminishing the permeability of the soil.

As to the impossibility of obtaining suitable soil of sufficient area in Massachusetts for the general employment of this system, the success which has attended the efforts of the English in finding it in their thickly populated island is an answer. Our forests could be utilized with little expense, and next to Italian rye grass the trees would prove the best absorbers of filth. A few acres of willows at Windsor take care of the sewage of twelve thousand people.

I recall but one other objection, the comparatively large rain-fall here, forty to fifty inches per year. At Gennevilliers 312 inches of water is sent on the land each year, and this "without making it damp or marshy since the establishment of subsoil drainage." And I know of two farms in my native town, in Worcester County, where irrigation with brook water has been practiced with advantage. Our average rain-fall is a little larger than that of Great Britain, where it is from forty to forty-five inches per annum, but the yearly average humidity (between eighty and eighty-six) is nearer the point of saturation there than here, where it is about seventy. Dr. Frankland considers the vapor in the atmosphere of England as "reducing the temperature from fifteen to twenty-five degrees;" and Tyndall remarks that "the abundance of atmospheric vapor hinders the radiation of heat at night in England." The protracted droughts which are so common in this country are unknown in England, where vegetation never suffers for want of moisture. I am indebted to Dr. Bullard for facts and figures on this branch of the question, which enable me to say with positiveness that the meteorological conditions of our climate, with the possible exception of winter temperature, are far superior to those of England for the employment of irrigation and agriculture.

To-day I only ask that before building a metropolitan sewer for the eastern part of the State to discharge in tide-water, and thus repeat the now demonstrated errors of London, Brighton, and Torquay, irrigation and agriculture may be tried, on a limited scale, by some one having faith in the success, as we might ultimately desire to reverse the current of the sewage of the metropolitan district.

A large proportion of our rural population have gardens attached to their houses. I would discourage the use of cess-pools and recommend the use of these lands for the disposal of sink water. I am informed that Dr. Jewett, of Northborough, has for many years

[1] It would hardly seem necessary to affirm before a scientific body of men that clarification is not purification, or that no system of epuration of sewage is satisfactory which by analysis shows quite as much pollution in the effluent as in the influent water. (See analysis of the sewage of the Women's Prison.) As to the average rain-fall of Great Britain the figures quoted were obtained in the office of the United States Signal Service and from Professor Niles. But as it is more a question of average humidity which determines the evaporating power, a few inches more or less of rain-fall per year is of little consequence.

[2] Babut du Maris quotes Dr. Carpenter as saying "the more dilute the better."

employed this system, and I have practiced it myself for ten years with complete satisfaction.[1]

Victor Hugo, in Les Miserables, describing the sewerage of Paris more than twenty years ago, makes a vivid picture of our systems at the present time. He writes as follows: —

"*The Earth Impoverished by the Sea.* Paris throws twenty-five millions a year into the sea. And this without metaphor. How, and in what manner? Day and night. With what object? Without any object. With what thought? Without thinking. For what return? For nothing. By means of what organ? By means of its intestine. What is its intestine? Its sewer. . . . Science, after long experiment, now knows that the most fertilizing and the most effective of manures is that of man. The Chinese, we must say to our shame, knew it before us. No Chinese peasant, Eckeberg tells us, goes to the city without carrying back, at the two ends of his bamboo, two buckets full of what we call filth. Thanks to human fertilization, the earth in China is still as young as in the days of Abraham. Chinese wheat yields a hundred and twenty fold. There is no guano comparable in fertility to the detritus of a capital. A great city is the most powerful of stercoraries. To employ the city to enrich the plains would be a sure success. If our gold is filth, on the other hand our filth is gold. What is done with this filth, gold? It is swept into the abyss. We fit our convoys of ships, at great expense, to gather up at the south pole the droppings of petrels and penguins, and the incalculable elements of wealth which we have under our own hands we send to the sea. All the human and animal manure which the world loses, restored to the land instead of being thrown into the water, would suffice to nourish the world.

"These heaps of garbage at the corners of the stone blocks, these tumbrils of mire jolting through the streets at night, these horrid scavengers' carts, these fetid streams of subterranean slime which the pavement hides from you, do you know what all this is? It is the flowering meadow, it is the green grass. It is marjoram and thyme and sage, it is game, it is cattle, it is the satisfied low of huge oxen at evening, it is perfumed hay, it is golden corn, it is bread on your table, it is warm blood in your veins, it is health, it is joy, it is life. . . .

"Statistics show that France alone makes a liquidation of a hundred million every year into the Atlantic Ocean from the mouths of her rivers. . . . The cleverness of man is such that he prefers to throw this hundred million into the gutter. It is the very substance of the people which is carried away, here drop by drop, there in floods by the wretched vomiting of our sewers into the rivers, and the gigantic collection of our rivers into the ocean. Each hiccough of our cloaca costs us a thousand francs. From this follows two results: The land impoverished and the water infected. Hunger rising from the furrow, and disease arising from the river. . . .

"A system of elementary drainage, as simple as the lungs of a man, and which is already in full operation in several villages in England, would suffice to bring into our cities the pure water of the fields, and send back into our fields the rich water of the cities, and this easy see-saw, the simplest in the world, would retain in our possession the hundred million thrown away.

"The present system does harm in endeavoring to do good. The intention is laudable, the result lamentable."

On motion of DR. HENRY I. BOWDITCH, it was

Voted, "That the thanks of this Society be tendered to the scientific gentlemen, not members of our body, who have contributed so much to our instruction and to the great interest of these meetings."

Adjourned at eleven o'clock.

[1] In view of the well-known results of chemical analyses of sewage the question as to its fertilizing properties seems to be out of place. It is almost the only fertilizer the Chinese employ. "The Duke of Portland used nothing but sewage on his farm at Mansfield, and obtained a net return of about $125 per acre." (Babut du Maris.)

PHILADELPHIA CLINICAL SOCIETY.

G. BELTON MASSEY, M. D., RECORDING SECRETARY.

JUNE 27, 1884. The President, DR. HENRY BEATES, JR., in the chair.

DR. G. BELTON MASSEY read a paper on

TRAUMATIC SCIATICA AND ITS RELATION TO HIP INJURIES.

Details of six cases were related, in the majority of which the sciatica had been overlooked, while attention was directed to a search for osseous injury. In the first case he was called in consultation to see an aged gentleman who had fallen on an icy spot of pavement eleven days previously. In falling he struck heavily on the left hip, and it was with difficulty that he arose and walked home, a distance of four and a half blocks. His family doctor, a prominent physician and an expert diagnostician, when called in searched diligently for fracture, but could find none, notwithstanding the evident helplessness of the limb and the attacks of excruciating pain that was made worse by movement. At the time the reader was called in the physician had about concluded that the pain must be imaginary.

On examination the absence of any kind of fracture was apparent. The patient could lift the limb but a few inches from the bed. He was suffering from continuous and severe pain, felt most at points corresponding to the sacro-iliac notch of the affected side — the rear of the head of the fibula, and the rear of the external malleolus. The pain was aggravated by any movement, but especially by flexion of the thigh and extension of the leg. It was clearly a case of sciatica caused by contusion of the nerve in falling.

At the request of the medical attendant the reader of the paper joined him in the care of the case, and applied the continuous descending galvanic current to the affected nerve, ending each sitting with a series of muscle-contracting interruptions of the current, great gentleness being required at first to avoid aggravating the pain temporarily. Good effect was manifest after the first visit, and eleven applications sufficed to establish a complete cure, recent careful inspection failing to detect either awkwardness of gait or atrophy of the posterior muscles.

CASE II. was that of a German woman, aged seventy-three. On the 15th of January, 1883, she fell on the ice, fracturing the neck of the femur outside the capsular ligament. After being totally neglected for two weeks, a member of the family asked the reader of the paper to take charge of the case. He found the limb one and one quarter inches shorter than its fellow, and greatly everted. At the seat of injury the

great trochanter was lost in an abundant deposit of callus. No crepitus could be found. Great pain existed throughout the distribution of the large sciatic nerve, being especially felt in the peroneal and posterior tibial branches. Considering the age of the patient, and the attempt at union already made by unaided nature, it was deemed unwise to interfere with the broken bone, so remedial efforts were entirely directed towards the relief of the sciatica. A series of blisters were directed; chloroform injections made; various stimulating and anodyne liniments applied, together with the internal administration of opiates and sedatives, but he felt bound to say the case seemed slowly to improve without being affected by any of these remedies. Electricity was not used, as the patient was too far from the office to make it possible to apply it with sufficient frequency, and the friends declined to have her removed to a hospital. The pain continued over a year in gradually decreasing severity, and though the patient has now been able to walk with crutches for some months there is much atrophy of the muscles supplied by this nerve.

The remaining four cases were selected from the large number of cases of sciatica treated by the writer at the electric clinics of the Orthopædic Hospital and Infirmary for Nervous Diseases.

CASE III. A healthy hod carrier was sent from Dr. Wharton Sinkler's clinic November 16, 1881. Seven weeks before, while carrying his usual burden up a ladder, the right foot slipped on a stick and threw the thigh into extreme flexion. He immediately felt an acute pain at the point of emergence of the sciatic and following that nerve down the thigh into the peroneal. It was sharp and pricking in character and had remained continuously present since the accident, being worse at night. He was unable to walk more than a block at a time, and presented a gait markedly characteristic of sciatica. No atrophy was found. He was placed upon static electricity, positive sparks being drawn from the painful points and course of the nerve. After the fifth application it is noted that he was much better; after the twelfth that he walked three miles to the hospital, and after the twenty-second application he was discharged cured.

CASE IV. A carpenter, aged sixty-eight, was sent from Dr. Sinkler's clinic September 29, 1880. A healthy man; eight months before admission he fell on the ice, striking the right hip. He was compelled to remain in bed six weeks, suffering from pain in the region of the small and great sciatics. His physician was uncertain whether fracture was present or not. On examination, the gluteal and flexor muscles of right leg were found much atrophied. He complained of great pain in the course of right sciatic to knee, and also in the distribution of the external peroneal. At times felt some pain in left leg. He was placed on the constant galvanic current thrice weekly. At the end of forty-two applications he is noted as entirely well.

CASE V. A man, aged forty, was sent from Dr. S. Weir Mitchell's clinic May 6, 1881. Four months before he had fallen and dislocated his right hip. This was reduced shortly afterwards and he remained in hospital eleven weeks, during which time, and up to his appearance at the clinic, he suffered from much pain throughout the sciatic distribution of that side. There was considerable atrophy of the buttock and limb — a difference of one and a quarter inches being found six inches below the trochanters. He was placed upon five grain doses of potass. iodide and the constant current thrice weekly. After thirty-five applications of the battery and considerable quantities of the iodide it was found that the pain had ceased but that some atrophy remained.

CASE VI. A porter, aged thirty-nine, was sent from Dr. Mitchell's clinic June 30, 1881. Fifteen months before he had been crushed between a platform and a moving car, fracturing the pelvis on the right side. At his first appearance at the clinic some crepitus was still present, and there was two inches shortening of the right leg. He complained of much pain in the region of the sciatic nerve of the right side, which was increased by motion and exercise. He had been blistered and was taking five grain doses of the iodide when sent to the electrical clinic. After twelve applications of galvanism, with some benefit, the summer vacation compelled a discontinuance, and he did not reappear in the autumn.

The obvious conclusions to be drawn from these cases were stated as follows:—

(1.) Surgeons called to cases of hip contusion or suspected fracture should not fail to search for evidences of injury to the delicate nervous structures here situated.

(2.) If such evidences of nerve injury are found, prompt and energetic measures of relief are indicated, the importance of which is emphasized by the complete and rapid recovery of the two cases which were treated early.

(3.) Of the four remaining cases one was distinctly benefited and two cured by more or less long-continued (one to five months) galvanic treatment. The fourth did not receive galvanic treatment, and was fully a year in duration.

DR. E. E. MONTGOMERY inquired how many cells had been used in the treatment. He thought that, considering the usual obstinacy of the class to which the cases related belonged, due to the inflammation of the sheath of the nerve, the treatment had been satisfactory.

DR. L. BREWER HALL related the details of a case similar to those described, which had been caused in a lady by a fall from horseback, alighting on the seat. The pelvis was fractured and a long continued sciatica supervened.

DR. MASSEY, in closing the discussion, said that the number of cells used varied from twenty or thirty to fifty, the kind being the gravity cell, which, owing to great internal resistance and the nature of the elements used, did not furnish as much current per cell as the zinc and carbon batteries charged with acid. The number used was largely regulated by the varying resistance of the skins of different individuals, some skins permitting a free flow of the current while others presented an almost insurmountable obstacle. It is to be regretted that the inventors have not as yet presented us with an instrument that will conveniently inform the operator of the true amount of electricity passing at a given moment. An approximation, however, to accurate dosage, may be made by including a galvanometer in the circuit, or even by observing the sensations of the patient. Since the date of these cases he had used the static form of electricity in many cases of ordinary sciatica, and found it at times equally efficacious as galvanism as well as more convenient.

FISSURED NIPPLES.

DR. DU BOIS called attention to the value of *bals. Peru* as an application for *fissured nipples*. It should be applied after nursing about four times daily.

DR. HALL, on behalf of the Committee on Microscopy, presented an improved clinical microscope, which combined all the features of a clinical with those of an ordinary table stand.

Recent Literature.

Wharton and Stillé's Medical Jurisprudence. Fourth Edition. Volume II. Poisons. Edited by ROBERT AMORY, A. B., M. D., and EDWARD S. WOOD, A. M., M. D. Philadelphia: Kay & Brother. 1884.

Excellent evidence of the revival of interest in medico-legal studies is found in the publication, during the past few years, of new books and of new editions of older works relating to forensic medicine in all its branches. Medical jurisprudence having for its aim the application of all departments of medicine to the needs of the law, it is absolutely necessary that the text-books and treatises upon the subject should be revised sufficiently often to recognize and represent the great advances in medical science which every one acknowledges. Perhaps no chapter of legal medicine stands in greater need of this frequent revision than that of toxicology. Not only is the practical art of chemical analysis a fine example of constant progress, but the fruitful labors of those who make physiological chemistry and micro-chemistry a special study should not be disregarded. Therefore it is a pleasure to announce that a new edition of Wharton and Stillé's great work, worthy successor of Beck's well-known treatise, has been prepared, and that the subject of toxicology, which in the last edition occupied a portion only of one of the volumes, along with the topics of wounds, signs of death, pregnancy, abortion, infanticide, identity, and rape, has been admirably elaborated by its former author, Dr. Amory, with the assistance of the accomplished professor of chemistry in the Havard Medical School, so that it fills an independent volume, containing more pages than the entire book of which, in 1873, the study of poisons formed a part.

The changes which the new edition shows are mainly in the nature of needed additions. Thus new poisons, such as carbolic acid, chlorate of potassium, gelsemium, physostigma, aniline, nitro-glycerine, and the nitrites of amyl and ethyl, are discussed, and new analytical methods as, for example, Dragendorff's process for the isolation of organic principles, and Stas's treatment of organic mixtures, are given in full detail. At the end of the book a very useful compilation of illustrative cases of poisoning is printed, which, though not inclusive of all the most important examples of toxicology in recent years, is ample to serve its purpose. Among these are to be found concise notes of the Lamson case (aconitine), the Major case (strychnine), the Bocarmé case (nicotine), with others quite as instructive. It is gratifying to our local pride to observe that the transactions of the Massachusetts Medico-Legal Society have received appreciative recognition from the authors. A conspicuous instance of this is found in the reproduction of the article on alcohol, read before the Society by Dr. Sabine.

In the matter of definition and classification of poisons the new volume does not depart materially from the former editions, but some changes are to be observed in the descriptive terms used, and in the distribution of individual poisons to their appropriate class. Thus in the new edition we have "non-metallic" and "septic" divisions of the irritant class instead of the "metalloidal" and "animal" divisions of 1873. Under the head "Narcotics" of the new edition are discussed chloral hydrate and belladonna, previously classed as "miscellaneous," while hydrocyanic acid, which was "narcotic" in 1873, is now found with nux vomica, aniline, aconite, and lobelia under the head "Miscellaneous." Doubtless the classification adopted by the authors is more to be commended for its convenience than for its exactness.

This volume is not, and does not pretend to be, a complete and exhaustive treatise on toxicology; but as a safe and sufficient guide upon the matters to which it relates, representing the latest advances in toxicological science, it should have a place in the library of every one who has any interest in the theory and practice of legal medicine. D.

TREATMENT OF OPHTHALMIC MIGRAINE.

FÉRÉ writes on this subject in *Le Progrès Médical* (June 7th), as follows: —

Migraine is generally considered by those who suffer from it a disease whose treatment is hopeless. These patients become accustomed to their suffering and rarely resort to the physician. There is, however, a form of migraine, the ophthalmic, characterized by the existence of a scintillating or hemianopic scotoma, a suborbital pain, nausea, and vomiting, which deserves more attention. This migraine, indeed, instead of showing itself in this relatively benign form, may be accompanied by other phenomena such as aphasia, monoplegia, hemiplegia, and partial epilepsy. Moreover, these phenomena after having been for a long time transitory may become established as a permanent state, making the victims true invalids. Among these collateral phenomena capable of becoming permanent, aphasia is one of the most frequent. The complications of aphasia may also in some cases be present. M. Charcot recently showed at his clinic such a patient, in whom was a combination of word-deafness and blindness, of agraphia and logoplegia.

Ophthalmic migraine, at least in its complicated forms, should not be considered a benign affection. It has, on the contrary, a grave prognosis, since by a repetition of attacks it may induce a serious infirmity. Hence M. Charcot insists in such cases on the employment of active treatment. In a certain number of cases he succeeded in lessening the frequency and gravity of the attacks by the use of bromides which he employed as in the treatment of epilepsy. This method consists in giving bromide of potassium (or preferably a mixture of bromides of potassium, sodium, and ammonium) in increasing doses for three or four weeks, then returning to a dose equal to or a little larger than that at the time of beginning, according to the result obtained, and so continuing. By this mode of administration it is aimed to avoid the accidents of bromine accumulation.

It must be remembered that this treatment has a chance of success only when the symptoms are not the result of material lesion, as happens, for instance, at the onset of general paralysis.

Medical and Surgical Journal.

THURSDAY, JULY 24, 1884.

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HEALTH OF THE CITY OF BOSTON, 1883-84.

THE twelfth annual report of the Boston Board of Health will, under existing circumstances, be consulted with more than usual interest by those having a direct stake in the general health and sanitary condition of the city, and this year even those dwelling without the urban limits have an immediate interest in the condition of all our sea-board towns. The Boston Board of Health in the present report makes a good showing for this city, and one calculated to reassure those who read it.

Up to May 1st there had been no occasion for alarm on account of any of the prevailing diseases, and the city had not been visited by any epidemic. The total number of deaths from all causes for the year was 9740; the estimated population in May, 1883, was 427,940; the actual death-rate was 21.91 per thousand. The percentage of deaths from preventable causes to the total mortality was 26.19, a decrease of 1.42 when compared with the previous ten years. There has been an unusual prevalence of scarlet fever and diphtheria, and the previous recommendation is strongly emphasized that sufficient hospital room be added to the City Hospital for the proper care and isolation of every case of contagious disease like diphtheria, scarlet fever, and measles as soon as settled that it cannot be properly isolated at home; only with such accommodations can these diseases be successfully combated and their mortality reduced. There has been only one death from small-pox, showing what may be accomplished by vaccination and isolation; in the last ten years there have been only twenty-five deaths from this disease, while in the single year preceding there were 302 deaths. That year, however, was one of epidemic. The percentages of deaths under five years to the total mortality was 37.23, against 35.03 the previous year, the average for ten previous years being 40.

In regard to sewerage, the report reminds the city that there is still much to be done in order to reach and drain the territory that was included in the original plan for improvement, and says: —

"The town of Brookline, the Brighton District, a portion of the North End, a large portion of South Boston, and the Dorchester District are now discharging sewage into shallow water or upon the flats, and thus perpetuating nuisances which ought to be speedily corrected by a large extension of sewers. The full capacity of the new sewer is not yet utilized, and will not be when the places named are served. There are also many places in Roxbury and West Roxbury well built up and served with water from the public pipes, but without public sewers or any adequate means of getting rid of so large a quantity of sewage. No better expenditure of money can be made than by extending the sewers to relieve these places."

Muddy Brook is still a source of distress to the abutters, to the Board who still superintend it, and of possible danger to the city. It is hoped the time is near when it will pass under the control of the Park Commissioners.

The question of Metropolitan Sewerage is forcibly and justly commented on as follows: —

"It is now five years since we began recommending a metropolitan system of sewerage for the cities and towns on the north side of Charles River and in the Mystic River Valley. The scheme has, from time to time, been favored by nearly all parties concerned. It has been sanctioned or recommended by several Governors, and by a commission of experts appointed by the Governor to consider and report upon the subject. There seems to be no reasonable doubt about the urgent need of this great sanitary measure, but there is a lack of interest in pressing its merits before the Legislature.

"The people of Cambridge, Somerville, Charlestown, Watertown, Arlington, Medford, Malden, Chelsea, and East Boston have great cause to move in this matter, for already the streams and flats to which their sewage has so long been directed are in a condition requiring immediate attention. It should be borne in mind that however bad the nuisance may be to-day it will be much worse at the end of five or six years, — the time which would be required for building the needed sewers.

"The Board would respectfully suggest that our city is vitally interested in the abatement and prevention of this nuisance, and ought to be the foremost in an effort to remedy the evil. The Legislature, at its present session, passed a bill providing for the appointment, by the Governor, of five persons to act as a commission to consider and report a plan for sewering the metropolitan district, and we trust that there will be a strong concurrent action of the cities and towns interested to bring about this great public improvement."

The number of houses ordered to be vacated during the year was sixty-six. Of these only eight were actually vacated, the owners of the others having complied with the conditions of the notice.

The whole number of prosecutions for violations of the laws and regulations pertaining to the public health during the past year was ten. There were eight prosecutions for scattering salt upon the horse-railroad tracks, in all of which convictions were had, and fines and costs imposed to the amount of $135. The sum total of all costs and fines imposed in all prosecutions during the year was $161.05.

The public baths required an appropriation of $15,000, and were patronized by 815,358 bathers, of

whom 634,418 were men and boys, and 180,940 women and girls.

The reports of the City Physician and of the Port Physician show an uneventful year.

AN OVERCROWDED PROFESSION.

THE Rev. T. T. Munger has written for the *New York Independent* an article intended to dissuade young men from entering the medical profession, and advocating the choice of the clerical profession instead. This article gives a very sombre view of the situation as far as young doctors are concerned, while telling some important truths which juveniles of both sexes contemplating medicine as a calling would do well to ponder. Dr. Munger (our reverend is a D. D.) says truly that, as a rule, professional men do not acquire wealth. The only hope that they can properly cherish is that of securing a living. Presupposing, then, intellectual fitness, moral earnestness, devotion to humanity, and all else that enters into a good minister or physician, the former is far surer of earning a living than the latter. In other words, the ministry is the better profession of the two, even from a worldly point of view. The medical profession seems to Dr. Munger (and he is right) to be overcrowded, and to such a degree that it no longer promises support to those who enter it. A few years ago, says the writer, there was in New York City one physician to 1500 of the population. According to the average ratio of the sick to the well — twenty in 1000 — this gave about thirty patients to each physician. But as a part of these were paupers, and a part went without treatment, or used quack medicines, the physician could rely on only fifteen to twenty paying patients provided they had been evenly distributed. To-day, however, there is in the United States one physician to every 650 persons; in the State of New York one to every 600; in New York City one to every 550. Thus the ratio of the sick to the well offers to the physician throughout the whole country only about ten possible patients, a part of whom go without treatment, and a part pay nothing. As a matter of fact the number of paying patients to each physician is from six to eight, but the older and more noted practitioners get the greater part of those, and so leave the new-comers with nothing to do, which is actually the case. Figures and experience go hand in hand in confirmation. "A young man," continues Dr. Munger, "who now enters the profession of medicine simply invokes poverty and want, and (what is worse) he defeats the end of his training by not exercising it. It may be noble and spirited to brave poverty, but nothing can justify a choice that necessitates idleness. There are, of course, exceptions springing out of wealth, family influence, good luck, and special talent, conditions on which few can count. The young physician, let him go where he will, — to New York or Dakota, — must contend with older and well established physicians for a living to be got from seven or eight sick people. His chances are about the same as picking up lost purses in the street, and his only hope is in praying, with Gil Blas, 'By the blessing of God may there be much sickness in this place!' It is unnecessary to picture the results of this overcrowding, — the degradation of mind and character that grows out of extreme poverty, the weary waiting, the heart-ache and heart-break, the defeat of purpose, the despair, the loss of skill, the dissipation sought to kill the sorrow, the unprofessional spirit and conduct induced by the struggle to gain a foot-hold. These common and increasing results are dangerous also to society. The hungry lawyer is to be feared, but Heaven save us from the hungry doctor! It is hard to understand why intelligent, forecasting young men should choose this profession in its present state."

The reverend writer has well presented the dark side of the picture. The swarms of young men (and young women) that are about to invade the numerous medical schools, north, south, east, west, with their arduous curriculum, might well pause before setting forth on this so perilous career. Are they prepared — impelled by an unconquerable love for this difficult and discouraging profession, perhaps also by a consciousness of eminent fitness — to meet the issue so well stated by Dr. Munger?

Such deliberation is especially proper on the part of those who contemplate exercising the profession as a livelihood, and who possess no resources on which to fall back for a series of years during the patient waiting for patrons.

There may be "room in the upper story," but there is no lack of eager, hungry, able competitors for the vacant space that is there.

Whether those who may draw back disheartened, having weighed well all the facts as above stated, shall accept Dr. Munger's advice and enter the ministry doubtless depends on certain important conditions which we need not insist upon here.

MEDICAL NOTES.

— Cholera, as was to be expected, is more active than last week at Toulon and Marseilles. Cases are also reported at Arles, Lyons, Paris, Madrid, and Vienna. A steamer had arrived in the Mersey from Marseilles, on board which two deaths from cholera occurred during the voyage.

— As possibly the previous notice in the JOURNAL may have escaped the attention of many, we would state that a list of physicians of the Suffolk District Medical Society who remain in Boston during the summer will be kept for the benefit of the public at the Medical Library, and those who have neglected to send their addresses, office hours, etc., can do so by addressing Dr. Edwin H. Brigham, Assistant Librarian, Medical Library, 19 Boylston Place.

— Dr. Jelly, of this city, who was assaulted and shot by an insane patient a few days ago, is, we are happy to learn, recovering, and it is hoped that no untoward results will permanently remain.

— The JOURNAL heartily sympathizes with every

effort to secure greater precision and elegance of style among writers upon medical subjects. It is doubtless true that, either from ignorance or carelessness, or both, many contributors to our journals present in their communications lamentable infractions of the rules of English syntax, and such errors will in spite of editorial care creep into the pages of the best periodicals. It cannot, however, but be regarded as a little unfortunate that one of our valued metropolitan contemporaries in an editorial article upon this subject uses the two following expressions: "No, not quite that bad," and "Some — almost every — writer speaks of a case," etc. If these phrases are intended to serve as "horrid examples," it might perhaps be as well to indicate that fact in some way.

— Mr. Benjamin Clarke has contributed an article to the *Pall Mall Gazette* on the subject of Penny Dinners for School Children. The experiment has been tried in London of distributing penny dinners to children attending elementary schools, and it has proved in the highest degree successful and satisfactory. The children largely availed themselves of the opportunity thus afforded them of obtaining a cheap and at the same time a good substantial dinner, which was distributed three times a week, with a daily average of 185. A total of 1663 dinners realized, at a penny each, £6 18*s.* 7*d.*, while the cost was £7 6*s.* 10*d.*, showing a loss of only 8*s.* 3*d.*, a loss which Mr. Clarke believes may be turned into a profit with more experience, but which he says need not deter any one from making the experiment. The experiment is likely to be largely tried both in London and the provinces.

— A correspondent of the *British Medical Journal* furnishes an interesting contribution to the much-discussed question as to the possibility of inducing anæsthesia during sleep. He writes: "Some years ago I was consulted by the parents of an excessively nervous girl, seven years of age, who was suffering from hypermetropia and double convergent squint. The agitation of the child and consequent distress of the parents at the idea of any surgical interference were so great that I thought it would be better to operate during sleep, and, after dismissing the patient with some reassuring remarks, arranged that this should be done the same night. Accordingly, about ten o'clock, when the child was fast asleep, I administered chloroform without disturbing her, and performed the operation on both eyes, replacing her in bed while still insensible. The anæsthetic sleep gradually merged into the natural sleep, which had never been broken; there was no vomiting, and the child did not wake until the following morning at the usual hour. There was no pain, and her alarm on finding that her eyeballs were bloodshot, when looking in the glass, was allayed by suggesting that she had caught cold. She made an excellent recovery. The deformity was quite removed, and she never suspected that she had undergone any operation at all."

— The Scyllæ and Charybdes between which the doctor has to steer his professional bark as he sails under the varying breezes of public opinion are thus feelingly pointed out by the *Hebrew Standard*: —

"If he visits a few of his patients when they are well, it is to get his dinner; and if he does not do so, it is because he cares more for the fleece than the flock. If he goes to synagogue regularly, it is because he has nothing else to do; if he does n't go, it is because he has no respect for the Sabbath nor religion. If he speaks reverently of Judaism, he is a hypocrite; if he does n't, he is a materialist. If he dresses neatly, he is proud; if he does not, he is wanting in self-respect. If his wife does not visit you, she is 'stuck up;' if she does, she is fishing for patients for her husband. If he has a good turnout, he is extravagant; if he uses a poor one on the score of economy, he is deficient in necessary pride. If he does not write a prescription for every trifling ailment, he is careless; if he does, 'he deluges one with medicine.' If he makes parties, it is to soft-soap the people to get their money; if he does not make them, he is afraid of a *cent.* If his horse is fat it is because he has nothing to do; if he is lean, it is because he is n't taken care of. If he drives fast, it is to make people believe that somebody is very sick; if he drives slowly, he has no interest in the welfare of his patients. If the patient recovers, it is owing to the good nursing he received; if he dies, 'the doctor did not understand his sickness.' If he talks much, 'we don't like a doctor to tell everything he knows,' or 'he is altogether too familiar;' if he does n't talk, '*we like to see a doctor sociable.*' If he says anything about politics, 'he had better let it alone;' if he does n't say anything about it, 'we like to see a man show his colors.' If he does not come immediately when sent for, 'he takes things too easy;' if he sends in his bill, 'he is in a terrible hurry for his money.' If he visits his patients every day, it is to run up a bill; if he does n't, it is unjustifiable negligence. If he orders the same medicine, it does no good; if he changes the prescription, he is in league with the druggist. If he uses any of the popular remedies of the day, it is to cater to the whims and prejudices of the people to fill his pockets; if he does n't use them, it is from professional selfishness. If he is in the habit of having frequent consultations, it is because he knows nothing; if he objects to having them, on the ground that he understands his own business, 'he is afraid of exposing his ignorance to his own superiors.' *If he gets pay for one half his services* he deserves to be canonized. Who would n't be an M. D.?"

— At the meeting of the American Medical Association held at Washington in May last an Amendment to Regulation II. was adopted which provides that membership in the Association shall be obtainable by any member of a State or county medical society recognized by the Association upon application indorsed by the president and secretary of said society, and shall be retained so long as he shall remain in good standing in his local society, and shall pay his annual dues to the Association.

— A homœopathic physician of Washington, Dr. Pearson by name, at a meeting of the Hahnemannian Society of Washington, according to a report in a journal of that complexion, styled homœopathic physi-

cians who do not follow the Hahnemannian system of therapeutics "half-breeds." In his reply to a toast given at the banquet given the Hahnemannian Society he said the charge is false that homœopathists give as crude doses as other physicians and send their prescriptions to druggists to be filled, and added: "Any physician who does this is a hypocrite, and a disgrace to the name of homœopathy. They (*i. e.*, homœopaths?) repudiate and discard such a prescriber, and while they could tolerate an allopathic physician who honestly practiced what he preached they felt nothing but contempt for the mongrel or half-breed who would 'steal the livery of heaven to serve the devil in.'" The aptness of this quotation is quite delicious.

— A man having fallen in an epileptic fit lately, in the region of the Five Points, three policemen, we learn from a contemporary, bound him with cords to an awning-post, gagged him, and stood over him with drawn clubs ready to administer promptly to any symptoms of hydrophobia that he might show on recovering consciousness, they having been told that the man had been bitten by a dog.

— "Doctor, I want you to do something for me. My nerves are shattered completely. I am not able to eat anything, and I sleep very little at night. What would you advise me to do?"

"What has brought about this condition?"

"Drinking too much, I'm afraid."

"Well, I would advise you to give up drinking."

"H'm, that idea never occurred to me. What's your charge for the advice?"

"Nothing."

"Nothing? I'm much obliged to you, doctor. Let's go and take something." — *New York Sun.*

— A candidate for license to practice medicine in North Carolina (and by the way an unsuccessful candidate) when asked "Who discovered vaccination?" replied "Virchcow." — *N. C. Med. Jour.*

NEW YORK.

— During the week ending July 12th the summer corps of sanitary inspectors visited 4504 houses and 24,099 families; 811 cases of sickness were found, and of these 365, nearly all of which occurred in children, were of diarrhœal trouble; 70 cases of contagious disease were discovered. The following special instructions have been issued to the corps by the sanitary superintendent: "All cases of contagious disease discovered, whether the patients are under treatment or not, are to be immediately reported to this bureau, giving name, age, and residence of the patient. The duties of this service are not limited to tenement-houses, but extend to all dwellings occupied by the poor, and in view of the possible advent of cholera special attention should be paid to shanty neighborhoods in unsewered portions of the city, where excreta are deposited in shallow vaults or upon the surface of the ground, and where the water supply is from springs or surface wells. All such places which require disinfection must be at once reported to this bureau."

— James Reilly, a performer with snakes, was bitten on the hand by a large rattlesnake over five feet in length, at High Bridge, in the upper part of the city, on the 14th of July, and died the following day at the Ninety-ninth Street Hospital, to which he was taken in an ambulance shortly after the receipt of the injury. As soon as he was bitten the man had applied his lips to the wound and exerted all the suction of which he was capable, and had then partaken very freely of whiskey. At the hospital he was treated mainly with hypodermic injections of ammonia and whiskey, but it does not appear that even at first a ligature was applied about the arm or that the question of amputation, which is frequently resorted to under similar circumstances by surgeons in India, was entertained. On the 16th Dr. Messonier, deputy coroner, made the autopsy in the presence of a number of physicians at the morgue. He found more or less congestion of all the tissues of the right arm (the hand of which had been bitten) and of the right side. No part of the left side was congested, but all the thoracic and abdominal viscera were. The heart was pale and flabby, and the blood in it, as well as in the arteries and veins, was perfectly fluid. The cause of death, on the certificate made out by Dr. Messonier, was stated to be "Syncope from septicæmic gases entering the right auricle of the heart. Septicæmia caused by a bite on the right hand from a poisonous rattlesnake."

Miscellany.

THE SEEN AND THE UNSEEN.

A SONNET BY THE LATE DR. R. D. JOYCE.

THERE was recently put into our hands a sonnet by the late Dr. Robert Dwyer Joyce, written by him on the fly-leaf of a copy of his poems which he was about to present to one of his friends. The sonnet was impromptu, and not intended for publication, but it is a pleasure to give publicity to so charming a bit of verse. It presents a pleasing picture, and undoubtedly a true one, of the mental life of the gifted but erratic author, who was accustomed to compose his poems as he walked the streets. Exactly as it stands, the sonnet applies probably to few others of the profession, for few physicians can claim familiarity with the glorious hill of poesy, but we believe that the individuals among us who lead two lives are common enough to make the little sonnet something more than poetic phrensy. Most children are known to have a world of their own, the product of their own brains from material furnished in part by their own imagination, in part by the nursery classics, in which they take refuge when the real world proves unkind, or time hangs heavy on their hands, and something of the kind is true of a smaller number of grown-up children. Unfortunately their unseen world does not always take on so pleasant a form as the poet's magic town. It is too often the country of the Might Have Been, whose inhabitants spend their time in calculating how far they would have journeyed had they never dallied by the way, and whose willows and myrtles have rooted out the asphodel.

We can but envy the happy disposition which could lift the soul above earthly troubles, and leave vain regrets for duller mortals.

SONNET.

I live two lives: one full of all unrest,
One full of heavenly joys of heart and brain.
In one I walk around mid grief and pain,
And hear the deep signs of the saddest breast
And groanings of the stricken ones, and see
The sad pale face of death and misery.
The poor man's load of grief, the rich man's frown,
And the fell leer of sin, till I am sad: —

In one I wander through a magic town,
Paven with pearls and in sweet garlands clad
From the bright meads of asphodel that crown
The glorious Hill of poesy, — the glad,
The green, delightful hill whose cliffs of gold
Each day with eyes of rapture I behold.

Robert Dwyer Joyce.

THE RISKS OF CORROSIVE SUBLIMATE INJECTIONS.

The unfavorable cases are beginning to be reported of the use of corrosive sublimate, as what we know of idiosyncrasy leads us to expect in the use of any powerful remedy. In *Schmidt's Jahrbücher* (Bd. 202, No. 4) some such instances are related. Professor Stadfeldt, of Copenhagen, while admitting its efficacy in most cases, is yet evidently somewhat afraid of it, especially as intrusted to midwives during labor. In the puerperal state he used it with excellent results in six consecutive cases, but in the seventh the effect was as follows: The patient, a twenty-three year old primipara, had a retained placenta, which required artificial removal. Uterus and vagina were at once washed out with carbolic solution. Four days after there was a chill, with temperature of 39° C. The next day a solution (1–1500) of corrosive sublimate was injected. After about 300 to 400 grammes of the solution had run out the patient suddenly complained of headache and difficult breathing. Her replies were somewhat uncertain, but consciousness was undisturbed. Some pains came on in the hypogastrium; the whole lower abdomen was tender, but not swollen. After a time a profuse sweating came on, and the pains ceased. There were heaviness, giddiness; stools thin; tenesmus; urine highly albuminous; no fever; temperature subnormal. In course of the next day the most important symptoms were vomiting, thin stools, with tenesmus, great thirst, and headache. The fifth day after the use of the injection the urine stopped, the consciousness became clouded, and the patient died quietly on the next.

Of course the cause of death was not at once certain, but an autopsy showed no peritonitis. Numerous ulcerations were found in the large intestine. The kidneys were much altered. Mercury could be detected in no organ. Stadfeldt considered it a case of death from mercurial poisoning.

Other instances are also cited. We make room for one other. A woman was operated upon for prolapsus of the vagina and rectum. During the operation, which lasted one hour and a half, the flaps were washed from time to time with a 1–1000 solution of sublimate. The next day the vagina and anus were washed with the same solution, which was also injected into the rectum. On the sixth day the patient complained of great pain in the mouth. The gums were seen to be inflamed. There was much salivation. The use of the sublimate was stopped, and vigorous treatment directed to the mouth, after which the symptoms vanished in a few days.

THE VALUE OF SINGLE SYMPTOMS IN THE DIAGNOSIS OF MANY DISEASES OF CHILDHOOD.

The *Medical and Surgical Reporter*, July 12th, reproduces editorially the substance of a paper by Dr. L. M. Politzer, for many years Director of the Public Hospital for Children in Vienna, which was recently published in *Deutsche Med. Zeit.*, May 19, 1884. The symptoms principally considered are the following: —

(1.) *If the cry of children has a decided nasal sound*, we should always look for a retro-pharyngeal abscess. Whenever the cry of a child has this peculiar nasal or guttural sound, we should never omit touching the posterior wall of the pharynx with our finger; if the abscess is present we feel the tense, fluctuating swelling so characteristic of retro-pharyngeal abscess.

(2.) *A noisy expiration, which is greatly prolonged (ten to fifteen times), while inspiration is normal, and no other disturbance of breathing, no dyspnœa whatever exists*, is a sure sign of chorea major, and the same can be said of a greatly prolonged, very loud, and forcible expiration, sounding like bellowing. This symptom of bellowing (brüllend) expiration has a typical character; it may happen for many weeks daily at one and the same hour, recurring every seven to ten seconds, and it usually consists of a single prolonged and forced expiration, or of a single expiratory roar. For months sometimes this symptom is the only sign of chorea major. It is easily cured by large doses of quinine, but is very prone to relapse and to be accompanied by other symptoms of chorea major.

(3.) *The symptom of high-thoracic, continually sighing inspiration* indicates the beginning of debility and paralysis of the heart. Ere cyanosis or paleness of the face, a weak, thread-like pulse, and coldness of the face, of the nose, and of the extremities develop themselves, this symptom makes its appearance. Contrary to stenotic respiration, as observed in croup, pneumonia, and œdema of the glottis, this sighing inspiration is not characterized by forced contractions of the diaphragm, and is not of abnormal type, but is accompanied by a laborious rise and fall of the thorax and jugulum, and instead of a stenotic noise by continuous sighing and moaning. No matter how the paralysis of the heart may be produced, — whether by so-called heart-poisons, as quinine, salicylic acid, pilocarpin, and digitalis, or otherwise, the symptom just described is pathognomonic of the disease, and whenever met with precautionary measures to combat the threatening palsy of the heart should be at once resorted to.

In some cases of acute fatty degeneration of the heart the same symptom has been observed.

(4.) *Expiration, decidedly diaphragmatic, and accompanied by a whistling sound of high pitch*, denotes bronchial asthma. A similar symptom is also met with in croup; but here it is associated with stenotic, forcible inspiration. The same is observed in capillary bronchitis; but the noisy breathing through the nose, the rapid development of pulmonary emphysema, the sud-

den appearance and disappearance of intense dyspnœa, and the fact of the latter and the whistling remitting during deep sleep, will prevent error.

(5.) *The existence of noticeable pauses between the end of each expiration and the beginning of the next inspiration* indicates severe catarrh of the larynx, and proves the absence of croup.

In consequence of the enormous aspiration of air in croup, inspiration and expiration follow each other immediately, while in laryngeal catarrh a pause takes place between the two acts, as the physician can convince himself by bringing his ear near the mouth of the patient, or by carefully watching the diaphragm and the jugulum, both of which are at rest during a pause.

(6.) *So-called stridulous expiration*, if present at birth and continuing day and night with rare interruptions of ten or fifteen minutes' duration, and usually considered by anxious mothers and the uninitiated a dangerous and ominous symptom, has neither diagnostic nor any other importance, being perfectly innocent, and generally ceasing of its own account after the lapse of a few months.

Then there are certain symptoms enabling us early to recognize various *diseases of the brain* in children: —

(1.) *A remarkable drowsiness, not accompanied by fever or any other symptom, and continuing for a longer time* (*one to three days*), often precedes basilar meningitis.

Vomiting, fixed pain in the head, even a slow, irregular pulse, have not the same great significance as this sleepiness, as they may also happen in other maladies. Certainly, stress must be laid upon the absence of fever, for many infectious diseases begin in children with a peculiar drowsiness, always associated, however, with more or less high fever.

(2.) *Prominent anterior fontanelle*, if decidedly reaching above the level of the surrounding parts, and if tense and of such a resistance as not to yield under pressure, proves the presence of an exudation within the cranium, or an increase of the contents of the latter, and is met with in purulent meningitis of the convexity, in cerebro-spinal meningitis of the epidemic variety, in acute, essential, and chronic hydrocephalus (here tense, but not necessarily very prominent), in great tumors, in echinococci, in acute œdema of the brain, and in intermeningeal apoplexy. In simple congestion, in acute hyperæmia of the brain, the anterior fontanelle always is soft and depressible. If the fontanelle is very prominent, almost cuneated and unyielding, without the least trace of pulsation, the diagnosis of apoplexy of the new-born, and a large intermeningeal extravasation of blood, can be made with certainty.

(3.) *Remarkably slow motion and long fixation of the bulbi with a vague look into vacancy, accompanied by a peculiar, slow opening and closing of the eyelids*, is a sign of beginning basilar meningitis.

Next, *peculiarities of the cry* of children aid us in the diagnosis.

(1.) *Violent, loud, penetrating crying, lasting two or three minutes, accompanied by great anxiety, as expressed in the face, and setting in almost typically, one to one and a half hours after the child has fallen asleep*, is a symptom of nightmare, and easily cured by quinine, which, in the dose of five to eight grains, should be administered one or two hours before retiring.

(2.) *Periodical crying, lasting five to ten minutes, and happening several times in the day, but occasionally only at night*, draws the attention to spasm of the bladder, if colic or dyspepsia is not present, and is cured by an emulsion of lycopodium, with or without belladonna.

(3.) *Frequent crying during defecation, dread of the act, and decided opposition of the child to going to stool*, indicate the existence of fissure of the anus. Constipation should be avoided in such cases, and zinc-ointment, with belladonna, locally applied.

(4.) *Violent, very painful, and nearly continuous crying, with restless throwing of the head from side to side* on the pillow, and frequent grasping of the head by the hands, are generally indicative of otalgia and otitis media and externa.

(5.) *Crying, lasting days and weeks, greatly increased on touching or moving the extremities*, accompanied by continuous, enormous perspiration and fever, denotes the presence of acute general rachitis, while the same symptom, without the sweating, but with decided emaciation, proves the existence of hereditary syphilis, and that the case is hopeless.

Of a great number of other symptoms we will mention but the following, as they are of more common occurrence and of greater importance.

When children are remarkably weak and little inclined to moving about after apparently innocent complaints of very short duration, *spinal infantile paralysis* may be expected. The least disturbance of hearing after acute diseases must be carefully inquired into, as it might be caused by *circumscribed meningitis* at the base of the fourth ventricle. Depression of psychical activity in small children after grave infectious diseases frequently forms the commencement of *acquired idiocy*; here strychnine has been proven by experience an invaluable remedy. Ossification of the bones of the cranium postponed longer than normal denotes beginning *rachitis*. An anxious, stiff action in walking, sitting, rising, etc., and pain expressed in the face of children, who do not yet walk, when they are lifted or laid down, are met with in the commencement of *spondylitis*. When children with a very large, closed cranium for weeks vomit everything they eat, we have the proof that acute hydrocephalus is being added to the former chronic disease.

OVULATION, COITION, AND IMPREGNATION.

DR. H. J. GARRIGUES furnishes to the *Journal of Obstetrics* (May) an abstract from an article by Dr. P. L. Panum, Professor of Physiology at the University of Copenhagen, in the *Nordiskt Med. Archiv*, vol. xiv., No. 29, which is a contribution to our knowledge of the relation between menstruation and ovulation and the vitality of the spermatozoids in the female genital tract. He says himself that the whole number of exactly observed cases are yet much too small to determine whether the impregnated ovum, as a rule, was detached at the last menstruation or at the time when the next menstruation should have occurred; but in his case he proves that the latter condition obtained.

A married lady in the higher walks of society, forty-three years old, had borne seven children, the last two and one half years ago, and had had two abortions in the third month, one and two years before the present one. Since then, she had had no sexual intercourse except

once, namely, on the 10th of April, 1882. The last menstruation had been present from the 3d to the 5th of the same month. On the 8th of June she had again an abortion. Menstruation had been regular up to April, except that it had come three times with an interval of only fourteen days, the last time on April the 3d.

Dr. Panum argues that during the first two or three months the development of the fœtus is so regular that every week has its own signs. That, in the present case, it corresponded to the fifth week. The antero-posterior diameter of the head was four millimetres. By the development of a median and two lateral frontal processes the nasal fossæ had been transformed into grooved canals. The median frontal process showed in the centre a small shallow notch. Under the eye appeared on either side the upper maxillary process, and it rested on the lower edge of the lateral frontal process without reaching the median frontal process. The inferior maxillary processes protruded further than the superior maxillary processes, and touched one another in the median line. The oral fissure, starting from the oral orifice under the median frontal process, extended between the superior and inferior maxillary process below the whole of the eye. The fissure-shaped foundation of the outer ear had an entirely horizontal position. Otherwise, the visceral clefts were closed; but as remnants of the three anterior visceral arches, three corresponding rounded folds were still visible on the neck. The caudal extremity was distinct, and rolled inward with a sharp curvature. The extremities showed the beginning bend of the knee and the elbow. The distance from the vertex to the caudal extremity was eleven millimetres. The heart and the large arteries contained bright-colored blood, and the whole fœtus was so well preserved that there could be no doubt that it had lived until near the time the abortion occurred.

It is evident from the period of development of the fœtus that it could not have been formed in an ovum detached at the last menstruation, which occurred more than two months before the abortion took place, but that it must be referred to the next monthly ovulation, at which no flow appeared, and which, according to the development of the fœtus, must have taken place in the beginning of May, four weeks after the last menstrual discharge, and about three weeks after the single connection. During all this time the semen must have been preserved in the female genitals in such a condition as to retain its fertilizing power. It is probably kept in the upper end of the Fallopian tube, which is developed so as to form a *receptaculum seminis*.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 12, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diphtheria and Croup.	Measles.
New York	1,340,114	955	600	45.78	9.03	36.86	1.99	2.42
Philadelphia	927,995	475	264	27·93	9.87	21.00	1.26	1.26
Brooklyn	644,526	414	266	47.76	11.28	39.12	1.68	5.04
Chicago	632,100	300	277	54.12	3.33	39.60	4.33	6.93
Boston	423,800	168	71	22.08	22.08	11.73	2.07	—
Baltimore	408,520	216	132	41.40	9.20	34.50	2.76	.46
St. Louis	400,000	179	113	47.31	7.98	33.06	2.28	1.14
Cincinnati	272,400	110	61	37.27	10.91	28.18	.91	.91
New Orleans	234,000	164	70	20.74	10.37	10.98	1.22	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	94	45	26 50	18.02	22.26	—	—
Pittsburg	180,000	80	16	50.00	2.50	32.50	5.00	5.00
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	32	13	28.17	21.91	21.91	3.13	—
New Haven	62,882	50	28	40.00	16.00	38.00	2.00	—
Nashville	54,400	25	10	24.00	24.00	16.00	—	—
Charleston	52,286	39	17	20.48	15.39	12.80	—	—
Lowell	71,447	39	14	17.92	12.80	12.80	—	—
Worcester	69,442	28	15	49.74	15 85	24.99	17 85	—
Fall River	62,674	42	27	52.36	4.76	40.46	—	2.38
Cambridge	60,995	18	8	16.66	5.55	5.55	5 55	—
Lawrence	45,516	15	8	33.33	11.11	33.33	—	—
Lynn	44,895	11	1	—	27.27	—	—	—
Springfield	38,090	13	7	30.76	38.45	30.76	—	—
Somerville	31,350	9	5	11.11	—	—	—	—
Holyoke	30,515	18	16	77.77	5.55	72.22	5.55	—
New Bedford	30,144	3	2	—	—	—	—	—
Salem	29,503	11	4	—	18.18	—	—	—
Chelsea	24,347	7	0	14.28	14.28	14.28	—	—
Taunton	22,693	5	1	—	—	—	—	—
Gloucester	21,400	4	1	25.00	25.00	—	25.00	—
Haverhill	20,905	4	1	—	—	—	—	—
Newton	19,421	6	1	33.33	16.66	16.66	—	—
Brockton	18,323	9	2	44.44	33.33	11.11	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	0	0	—	—	—	—	—
Fitchburg	13,433	4	1	50.00	—	50.00	—	—
Massachusetts towns	358,366	61	24	24.60	18.04	22.96	1.64	—

Deaths reported 3608 (no reports from Buffalo and Milwaukee): under five years of age, 2121; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, diarrhœal diseases, and fevers) 1394, diarrhœal diseases 1076, consumption 374, lung diseases 207, diphtheria and croup 72, measles 63, whooping-cough 50, scarlet fever 43, typhoid fever 38, malarial fevers 35, cerebro-spinal meningitis 11, puerperal fever eight, small-pox four, erysipelas four. From *scarlet fever*, New York 14, Chicago six, Philadelphia five, Brooklyn and St. Louis four each, Boston, Cincinnati, and Pittsburg two each, New Orleans, District of Columbia, Lowell, and Somerville, one each. From *typhoid fever*, Philadelphia nine, St. Louis six, New York and Chicago four each, Brooklyn, Boston, Baltimore, and Cincinnati two each, District of Columbia, Pittsburg, Providence, Nashville, Charleston, Lowell, and Newton one each. From *malarial fevers*, Brooklyn nine, New Orleans eight, St. Louis seven, New York five, Baltimore and Charleston two each, Philadelphia and Nashville one each. From *cerebro-spinal meningitis*, New York, Chicago, Cincinnati, Worcester, and Fall River two each, Brockton one. From *puerperal fever*, Fall River two, Brooklyn, Chicago, Boston, St. Louis, and New Orleans one each. From *small-pox*, New Orleans three, Philadelphia one. From *erysipelas*, New York and Philadelphia two each.

Cases reported in Boston: scarlet fever 47, typhoid fever 25, and diphtheria 12.

In 107 cities and towns of Massachusetts, with an estimated population of 1,385,681 (estimated population of the State 1,955,104), the total death-rate for the week was 17.88 against 15.35 and 15.41 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending June 30th, the death-rate was 19.2. Deaths reported 3230: acute diseases of the respiratory organs (London) 218, measles 144, whooping-cough 122, diarrhœa 90, scarlet fever 50, fevers 42, diphtheria 27, small-pox (London 29, Liverpool five, Sunderland two, Manchester, Sheffield, and Cardiff one each) 39. The death-rates ranged from 11.5 in Brighton to 26.1 in Liverpool; Birkenhead 17.2; Birmingham 19.2; Blackburn 23.6; Leeds 20.1; Leicester 16.5; London 19.1; Manchester 22.1; Nottingham 20.1; Sheffield 16.7; Sunderland 23.3. In Edinburgh 15.7; Glasgow 23.3; Dublin 28.2.

For the week ending June 21st, in the Swiss towns, there were 29 deaths from consumption, lung diseases 15, diarrhœal diseases 12, typhoid fever nine, diphtheria and croup four, scarlet fever two, whooping-cough one. The death-rates were, at Geneva 17.3; Zurich 3.9; Basle 21.4; Berne 10.1.

For the week ending June 28th, in the Swiss towns, there were 29 deaths from consumption, typhoid fever 19, diarrhœal diseases 14, lung diseases 13, diphtheria and croup three, whooping-cough two. The death-rates were, at Geneva 13.2; Zurich 11.8; Basle 20.1; Berne 12.2.

The meteorological record for the week ending July 12th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
July, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 6	29.742	72	82.5	67	90	67	79	79	W	SW	SW	6	12	7	O	O	O	—	—
Mon., 7	29.870	68	79	63	75	62	72	70	W	SE	NW	10	11	2	F	F	O	—	—
Tues., 8	29.859	62	69	60	88	93	100	94	NE	E	NE	3	5	3	O	O	O	—	—
Wed., 9	29.670	67	77	59	92	60	92	81	N	NW	E	8	8	2	O	O	O	—	—
Thurs., 10	29.764	71	82	60	74	46	76	65	W	W	W	9	13	10	F	F	C	—	—
Fri., 11	29.899	74	86	59	66	41	92	66	W	SW	SW	7	10	6	C	C	F	—	—
Sat., 12	29.781	72	85	58	90	67	90	82	SW	SW	NW	6	11	5	F	F	O	—	—
Mean, the Week.	29.798	69.4	80.2	61				76.7										10.26	0.77

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY FROM JULY 12, 1884, TO JULY 18, 1884.

CLEMENTS, B. A., major and surgeon. Also directed to relieve Surgeon J. P. Wright of his duties as Acting Medical Director, Department of the Missouri. Paragraph 1, S. O. 138, headquarters Department of Missouri, July 8, 1884.

MCELDERRY, HENRY, captain and assistant surgeon. From Department of the Platte to Department of the East. Paragraph 12, S. O. 165, A. G. O., July 16, 1884.

EWEN, CLARENCE, captain and assistant surgeon. Assigned to duty as post surgeon, Fort Sidney, Neb. Paragraph 8, S. O. 58, headquarters Department of Platte, July 11, 1884.

ELBREY, F. W., captain and assistant surgeon. Leave of absence still further extended six months on surgeon's certificate of disability. Paragraph 6, S. O. 161, A. G. O., July 12, 1884.

WAKEMAN, WILLIAM J., first lieutenant and assistant surgeon. Relieved from duty at Fort D. A. Russell, Wyo., and assigned to duty as post surgeon, Fort Washakie, Wyo., relieving Assistant Surgeon Norton Strong. Paragraph 9, S. O. 58, headquarters Department of Platte, July 11, 1884.

APPOINTMENT.

CHARLES B. EWING to be assistant surgeon, with the rank of first lieutenant, July 5, 1884, vice Middleton, promoted. Memo., A. G. O., July 14, 1884.

LIST OF OFFICIAL CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING JULY 19, 1884.

GIHON, A. L., medical director, ordered as member of Board of Inspection.

PERSONS, R. C., passed assistant surgeon, ordered to U. S. S. Saratoga.

SEIGFRIED, C. A., passed assistant surgeon, detached from U. S. S. Saratoga, ordered to Naval Hospital, Brooklyn.

SAYRE, T. S., assistant surgeon, ordered to U. S. S. Independence.

BOOKS AND PAMPHLETS RECEIVED. — Notes on the Opium Habit. By Asa P. Meylert, M. D. Second Edition. New York: G. P. Putnam's Sons. 1884.

The Objects of Dermatological Classification, with Especial Reference to Auspitz's System. By Edw. Bennet Bronson, M. D. (Reprint.) New York: William Wood & Co.

Disease in Cattle, Kansas and Illinois. Letter from the Secretary of the Treasury. Public Document.

Quarterly Report of the Chief of the Bureau of Statistics, Treasury Department, Relative to the Imports, Exports, Immigration, and Navigation of the United States for the Three Months ending September 30, 1883. No. 1.

Same. No. 2. For the Three Months ended December 31, 1883.

Address.

THE PHYSICIAN A POPULAR EDUCATOR.[1]

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 11, 1884.

BY JOHN CROWELL, M. D., OF HAVERHILL.

THE attitude of the public in regard to the management of *Contagious* and *Infectious Diseases* is often at fault, and it is here where the timely interference of the physician is of vital moment.

Notwithstanding the rules and restrictions of Boards of Health, the grossest carelessness prevails, and exposure to diseases accounted contagious is encouraged by this easy-going negligence. Take, for instance, that much dreaded malady, diphtheria. Dr. Elisha Harris, of New York, in his report of the investigations made by him of the epidemic that occurred in Vermont in 1879, makes the following practical suggestions: —

"No other disease in our Northern States has been more generally regarded as unpreventable, and none more capricious and fatally obstinate in its mode of prevalence, than diphtheria. Its apparently, and very probably, sporadic origin in numerous instances; its invasion of the most salubrious as well as the most insalubrious quarters; its variable malignancy, and its rapid fatality in numerous cases wherever it prevails, have furnished ample occasions for the unsettled opinions and sanitary regulations which prevail in regard to this destructive malady. Medical men no longer reject the conclusion which experience has taught concerning the personally contagious attribute of diphtheria; but as this attribute is variable in its intensity in different cases and on different occasions, apparently, sanitary precautions and regulations adopted to extinguish or wholly control the virus of this disease are only occasionally applied and enforced."[2]

This condition of things in relation to this disease, so carefully and so cautiously stated by high authority, has resulted in a deplorable looseness among all classes. Because the contagion of diphtheria differs from that of other well-known diseases in the character of inception and development, the public mind becomes indifferent to the suggestions of sanitary authorities, and in many localities we find an almost open defiance to all precautions. There is often no system of isolation during the prevalence of an epidemic; there is gross neglect in the use of such disinfectants as are sanctioned by the best authorities; there is but little attention paid to the cleansing of houses, bedding, and clothing; and, worse than all, there is a reckless disregard for the safety of the living in the disposal of the bodies of those who have fallen victims of the disease. Numerous instances could be cited where public funerals have been held, and the body of the dead child, bedecked with floral emblems in an open casket, has been followed to the grave by a procession of school children. This dangerous expression of sentiment finds encouragement too often by clergymen, teachers, and even parents, especially when the victim of the malady is a favorite child and very generally beloved. People need wholesome rules from the physician in the conduct of this disease, and, in the absence of local sanitary authority, his word must be potent in its explicitness, and with a savor of authority in its practical application.

There is another question growing out of contagious diseases that is engrossing no little attention. I refer to *Vaccination*.

The public mind is somewhat divided as to the efficacy of vaccination as a preventive or modifier of small-pox, and also as to the danger attending the operation in transmitting certain loathsome diseases, more to be dreaded than the pest against which the prophylactic treatment is directed. In every little community, in every rural school district, there will be found men who will rebel at any attempt at compulsory vaccination, and oftentimes family feuds and bitter personal strife are the disagreeable results of an order for a general protection during a visitation of small-pox. Certain newspaper writers keep up the controversy, and sometimes a member of our profession widens the breach by the authority of his assertions, or by the sophistry that lurks in isolated statistics, and in the glamour of semi-professional nomenclature.

We frankly admit that the process of vaccination has been subjected to abuse, and that grave evils have resulted from the carelessness of the operator; for vaccination, like every other operation on the human body, demands care and skill in its performance. The evils of pyæmia and syphilis, which have ensued in certain cases, have been due either to the use of a foul lancet, or of lymph, which, from remaining too long in the vesicle, had begun to decay, or from employing lymph mixed with the blood of a diseased subject. The evils of vaccination, then, can be easily avoided, and the remedies are very simple, — a clean lancet, and pure lymph unmixed with blood or any other secretion. And since such ample facilities are afforded to procure virus from the cow, there need be no fear on the ground of vaccino-syphilitic inoculation.

And yet compulsory vaccination meets with stout opposition at home and abroad. The law in England demands that all children shall be vaccinated within four calendar months of birth; but this provision is so imperfectly fulfilled that, according to official reports, "the public defences against small-pox are in great part insufficient and delusive."[3] During the last session of the British Parliament the whole matter of compulsory vaccination came before the House of Commons by a resolution introduced by Mr. P. A. Taylor, member for Leicester, as follows: "That in the opinion of this house it is inexpedient and unjust to enforce vaccination, under penalties, upon those who regard it as unadvisable and dangerous." This resolution was supported by a speech of great vehemence, in which the whole system was denounced not only as dangerous, but utterly useless, and, without taking the trouble to produce facts, Mr. Taylor dogmatically asserted that as "a factor in national mortality small-pox is nowhere at all."

It was for Sir Lyon Playfair to reply to these assertions, which he did by a masterly array of facts, too convincing to admit of controversy, and which are worthy of reproduction. A military surgeon testified before the committee of 1871 that of over one hundred and fifty thousand soldiers vaccinated, not one instance was on record of the transmission of disease by the operation. And of the 17,000,000 children vaccinated within the last thirty years, Sir Lyon challenged any one to produce four authentic cases that had been poisoned by a syphilitic taint.

And in further elucidation of his position he pre-

[1] Concluded from page 76.

[2] Annual Report of the National Board of Health, page 291.

[3] Fifth Report of Medical Officer of British Privy Council, page 6.

sented a concise array of facts showing the beneficial results of vaccination. These facts are so succinct that they are of practical value in meeting popular errors upon this vital topic.

In forty years after the introduction of vaccination into England the death-rate from small-pox had fallen from 3000 per million to 600 per million, and after gratuitous vaccination had been ordered in 1841 the average mortality was brought down in thirteen years to 305 per million.

Again, when vaccination was made compulsory, in 1871, the ratio of fatality was reduced to 223 per million; while in Scotland, in 1882, the rate was only six per million. Remarkable results are also observed in the late Franco-Prussian war. The year before the war 40,000 French soldiers and 216,426 Prussian soldiers were re-vaccinated. There was not, however, time to re-vaccinate a large number of recruits who entered the French army from Brittany, where small-pox was prevalent. And the physician-general of the French army, Dr. Leon Colin, records, "That the different armies, raised in haste and placed in the field without time for re-vaccination, were exposed both at their places of gathering and in their marches to the attack of the epidemic. The result was, that while 23,499 French soldiers died of small-pox, the mortality among the Germans did not exceed 263 deaths."

In London the deaths of the protected and unprotected are relatively 90 and 3350 per million, while in America the deaths of the unvaccinated are fifty per cent. in Boston, sixty-four per cent. in Philadelphia, and fifty-four per cent. in Montreal, and among the vaccinated the mortality is from fifteen to seventeen per cent.

At the conclusion of his argument, Dr. Playfair moved the following amendment to the resolution: "That in the opinion of this house, the practice of vaccination has greatly lessened the mortality from small-pox, and that laws relating to it, with such modifications as experience may suggest, are necessary for the prevention and mitigation of this fatal and mutilative disease."[1]

And this resolution was sustained by the remarkable vote, three hundred and two, while the anti-vaccination party mustered only sixteen votes.

It would seem, then, to be an easy matter to convince even the most skeptical that vaccination is a necessary means of defense against a terrible disease, and with Jaques, in As You Like It, the physician can confidently exclaim, with reference to this scourge of mankind: —

> "Give me leave
> To speak my mind, and I will, through and through,
> Cleanse the foul body of the infected world,
> If they will patiently receive my medicine!"

What better service can the profession render to the community than to assert a well-defined polity against *Superstition*, *Empiricism*, and *Quackery*?

The medical world has been more or less under the sway of superstition from the time of the early Egyptians to the latter part of this nineteenth century. During the highest period of Grecian civilization the disciples of Æsculapius depended upon feasts, fastings, and religious ceremonies for the cure of disease. The Romans combated the plague by incantations to the gods in the temple of Jove. The early Christian church believed that the power to cure disease lay wholly with the bishops and elders by the use of a miraculous power, independent of remedial agents. In later times kings and queens of England and France claimed the power of curing disease by the laying on of hands. Queen Anne touched the king's evil of Dr. Johnson, who was brought by his mother in his infancy for royal treatment by recommendation of a distinguished physician of Lichfield. And this kingly prerogative which prevailed through the Stuart dynasty was afterward assumed by those of less note, who passed through all the stages of wonder-working power possible to a diseased imagination.

Of the multiplied forms of superstition that have come down to us as a legacy, some are too trifling and harmless to deserve attention. Let the Dr. Johnsons remain happy by always putting forward the left foot on entering a room, and allow the college student the luxury of wearing a nutmeg strung around his neck as a talisman against disease. But when the foolish myths of an ignorant age are perpetuated and made to environ the pathway of a pregnant woman, and subject her footsteps to a succession of pitfalls and spring-guns; when the life of a young mother is made wretched by the old wives' fables of the dangers attending every period of lactation and dentition, it is well to challenge these miserable maxims and "call a halt."

Quackery does not always appear in the *rôle* of a mendicant who practices his base arts upon the unwary and the ignorant. It does not always flaunt its filthy rags and display the tawdry show of its stock-in-trade to the gaping crowds in the streets. It has other artifices and other devotees. It sometimes assumes the air of a gentleman and rides in a gilded coupé. It finds too easy access to the home of affluence and fashion, and the doors of the library and the boudoir open to its persuasive knock. It can adapt itself to all moods, and patiently lies in wait for the weakness and duplicity of suffering humanity. It is in such lurking and subtle form and garb that this foe to science and to humanity is most to be feared. And do we not sometimes find it seeking refuge behind the protecting seal of a piece of parchment?

It is a grim satire upon the pride and glory of medical science that the confidence of the great public in the power of specifics, as curative agents, remains as strong as in the former days of alchemy and astrology. Perkins's tractors and Bishop Berkeley's tar-water are perpetuated in the long list of patent nostrums that come in like a flood and threaten to overwhelm the land. Colossal fortunes are amassed from the sale of vile concoctions, whose virtues are set forth with all the glaring allurements of cheap art, and the convincing logic of those grateful people who, in turgid rhetoric, tell the suffering public of their ready relief from maladies which "regular physicians" had tried in vain to cure. What a piece of patchwork is man, with his garniture of liver pads, lung protectors, electrical belts and jackets! How is he guarded from all pulmonary ailments by alternate trials of stuffing and starving! How is he led captive by the invitations and warnings that confront him in painted characters upon every available rail-fence or rocky cliff in the land! How does the poor long-suffering stomach run the peptonized gauntlet, and barely escape destruction in the dreadful ordeal! And will not mercy cry out in pity for the helpless babies in their struggles with many of the preparations of artificial food? Denied

[1] From Parliamentary Report published in the Boston Daily Advertiser, July 4, 1883.

the nourishment that nature so bounteously pours out, these poor victims of mercenary greed are stuffed with an ever-varying round of compounds that vie with each other only in the differing grades of worthlessness.

Empiricism not unfrequently appears in the itinerant lecturer, who, with an airy grace, exhibits his credentials, and unfolds his manikins and his skeletons to the applauding public. And, having prepared the way by a generous course of free lectures, he plies his specialty with lucrative success, and then leaves his victims to wonder why they are not cured, while he is "over hills and far away" with his ill-gotten gains. And before the old-fashioned family doctor has finished making repairs on mutilated eyes and scarified organs of generation, or has found time to remove the pessaries and supporters, and liver pads and electric belts, the annual visitant again appears, and finds new victims to his devices with a generous patronage from his old dupes.

Massachusetts is far behind many of her sister States in the enactment of laws regulating the practice of medicine. While nearly every other State and Territory have done something, more or less effective, in this direction, our own State is unprotected, and quackery in every form is practically unhindered in its imposition upon the public.

The State of Illinois has done noble service to science and to humanity by empowering the State Board of Health to regulate the practice of medicine, and this has been done so wisely and so efficiently that quackery and empiricism find but feeble foot-hold within its jurisdiction. From the admirable and exhaustive report recently prepared by Dr. John H. Rauch, the able secretary of the Board of Illinois, we gather valuable information upon the whole subject of "Medical Education, and the Regulation of the Practice of Medicine in the United States and Canada." In the long list of States that have enacted laws of various degrees of force and effectiveness the name of Massachusetts does not appear, while those States possessing *good* laws are North Carolina, Alabama, West Virginia, Illinois, Missouri, Minnesota, New Mexico, Wyoming Territory, Mississippi, and Louisiana.

The Illinois Board of Health did important service in the exposure, in November, 1882, of the fraudulent "Bellevue Medical College of Massachusetts," which issued medical diplomas under the protection of a law relating to "Manufacturing and other Corporations." And the officers of this "bogus" college contended that they had a legal right to issue diplomas and confer degrees without any restriction on account of study or professional attainments. The United States Commissioner, before whom the trial was had, held this plea to be valid, and dismissed the case with the following remarks: "The State has authorized this college to issue degrees, and it has been done according to legal right. The law makes the Faculty of the College the sole judges of eligibility of applicants for diplomas. If the Faculty choose to issue degrees to incompetent persons *the laws of Massachusetts authorize it.*"

Such an outrageous possibility, under a law of Massachusetts, has been canceled, and the State saved from further disgrace in this direction, by the passage, June, 1883, of an act forbidding any corporation organized under the law referred to from "conferring medical degrees or issuing diplomas, unless specially authorized by the Legislature so to do."

Why should Massachusetts lag so far behind other States in the enactment of laws so wise, just, and humane? Laws not primarily intended to protect the medical profession, but to stand between the public and the horde of vampires that feed upon the life blood of their ignorant, superstitious, and deluded victims.

Is it not the duty of the members of our profession to educate the popular mind into a right appreciation of this vital question, and so to enlighten our legislators as to induce them to enact laws that shall redeem the good old Bay State from the contumely of fostering, by her legislation, the basest kind of frauds upon her citizens?[1]

Such, then, Mr. President and Fellows, are some of the methods by which the physician can render service to the public. It may be unrequited service; it may be called drudgery, but it is the drudgery that comes from ministration and sacrifice. It is the service essentially belonging to the highest ideal of the medical profession; a profession which makes the most profound problems of scientific research subservient to the wants of suffering humanity; whose noblest teachers and specialists are found wherever misfortune and woe have sown the seeds of disease.

It is a service scattered broadcast over the land. The same in the country doctor who toils among the hills of Berkshire, or along the sandy reaches of the Cape, as in the city practitioner who threads his way, not only among the homes of affluence, but also through the lanes and alleys — the "Ghettos of the poor." In the eloquent words of "Hyperion," the physician is the servant of the public, "toiling much, enduring much, fulfilling much; and then, with shattered nerves, and sinews all unstrung, lies down in the grave and sleeps the sleep of death, and the world talks of him while he sleeps! And as in the sun's eclipse we can behold the great stars shining in the heavens, so in this life-eclipse does he behold the lights of the great Eternity, burning solemnly and forever."

APPENDIX.

LAWS REGULATING THE PRACTICE OF MEDICINE IN THE UNITED STATES AND CANADA.

Extracts from a Report presented before the American Academy of Medicine at New York, October 10, 1883, by RICHARD J. DUNGLISON, M. D., *and* HENRY O. MARCY, M. D.

THE excellent laws now in force in West Virginia and Illinois have been taken as models, and although it has been found impossible to imitate them exactly, on account of local obstacles and local prejudices, the wedge has been entered, and some good results must inevitably attend the enforcement of the law. A letter recently received from Dr. Millard, the Secretary of the State Board of Minnesota, a State which has adopted restrictive enactments since the last annual report of your committee, summarizes the general aspects of the best of these laws; and we may quote his remarks upon their provisions as particularly appropriate in this connection, especially as he has given the subject of medical legislation close study and attention: —

"I think," says Dr. Millard, "the law or 'Acts' now in force in West Virginia, Illinois, Minnesota, and Missouri the best, by far, extant in any of the States. These four States are governed by virtually the same law, and have a constituency of at least 15,000 physicians. Each Act gives the Board the power of deciding the diplomas of what schools they shall recognize, and of revoking the certificate of any practitioner for unprofessional conduct; also the power to grant licenses to non-graduates by passing the necessary examination to test their fitness. You will observe that the main features of the law of these four States make the Board the Censors of the different medical

[1] See Appendix.

schools, as well as the professional conduct of those practicing within the jurisdiction of the different Boards. It is claimed by the enemies of this Act that it constitutes a 'medical autocracy' of the Board, and that it may use its power very unjustly. There is no doubt that, if the Act is administered by unfair men, this criticism is true. It is, however, noticeable that outside of a few '*commercial*' medical schools the law gives the greatest satisfaction, and I have not heard a whisper of complaint. The profession in general and a few of our leading medical institutions recognize that this country is flooded with incompetent medical men. That the time has arrived to cry, halt! all will assert, but as to the means of bringing about the halt there is a great difference of opinion. That it will not be brought about by the colleges themselves the profession is satisfied after the last ten years' agitation of the subject, and the example set by Bellevue and some others. In appealing to legislatures to regulate this evil I think the correct law should compel *all parties* to submit to an examination before practicing in the State. Such legislation is, however impracticable now, and next to this I think the Acts of the States I have mentioned the best."

The Mississippi State law, which was adopted in 1882, is stated, by an earnest observer in that section of the country,[1] to be on a par with that of Illinois, in its efficiency and practical working, and is said to have accomplished already all that its most sanguine friends could have expected. To quote his own language: "All practitioners in the State, as far as I am aware, of every grade, have cheerfully complied with its requirements. . . . The pile doctors, down to the Indian doctor tramping around with his banjo and his calico gown, have given us a clear field. Their places are vacant, and their voice is heard no more in the land. Thus, already, in one season, thousands of dollars have been saved to the people of the State, to say nothing of other benefits." In Alabama the diplomas of medical colleges confer no right to practice medicine in that State; the applicant must be actually examined by a Board appointed for that purpose. In Arizona and Pennsylvania, and in Washington Territory, the law is simply for purposes of registration; in Arkansas a bill providing that all practitioners should be graduates of reputable medical colleges failed, this year, to pass both houses of the Legislature, and county boards of medical examiners, appointed by county judges, who may not be competent to decide as to the professional qualifications of their appointees, still continue to give certificates to applicants for permission to practice medicine in that State. Connecticut's very brief law is mainly intended for the punishment of itinerants. In Kentucky the law is a dead letter except in a few counties, and in Texas and Nebraska it is weak and ineffective.

Dr. Piffard considers the New York law a good one, but that it has one important defect, in that a perjury in registering is only punishable as a misdemeanor, and not as a felony. Oregon has had a bill before the Legislature every year, for ten years past, but it has not yet succeeded in attaining so desirable a consummation. In Tennessee, which has no law of this kind, the practice of medicine is said to be free to all; according to the authority of the Secretary of the State Board of Health, "Indians, Negroes, confidence men, and all that ilk, ply their 'trade' with no restrictions whatever. Any man who claims to be a doctor *is* one; hence druggists who do not know enough to make a living turn out as doctors in full practice before you know it. A farmer boy, too lazy to plow, reads an old work on practice, or Every Man His Own Doctor, invests six dollars in drugs, and is a physician; and, being a 'regular,' we all consult with him. Our legislators will not touch, and our doctors are too timid to press, the subject, and so we languish in the old paths."

It may well be asked by us, as a committee watchful of the progress of the times, whether, in States like this, which have imposed no restrictions upon the unlimited and unbridled practice of medicine, the experience of nearly four centuries has seen any marked change from the days of King Henry VIII. to the present hour;[2] for we read in the preamble of an Act, passed in England in the year 1511, looking to the regulation of the practice of physic and surgery, that its adoption was rendered necessary by the fact that "the science and cunning of physick and surgery is daily, within this realm, exercised by a great multitude of ignorant persons, of whom the great part have no manner of insight in the same; some also can read no letters in the book, so far forth that common artificers, as smiths, weavers, and women, boldly and accustomably take upon them great cures and things of great difficulty, in which they . . . apply such medicine as be very noxious and nothing meet therefore, to the high displeasure of God, great infamy to the faculty and the grievous hurt, damage, and destruction of many of the king's liege people."

Utah has shown her interest in medical legislation only by that provision of her Penal Code which punishes physicians who are drunk, and has been content with this measure of legislative protection of the people of that section of the country. A correspondent in Salt Lake City writes that "the inference is, that during the little time he is sober he will not do much harm. As for the medical fraternity proper, I do not think any of them care for any law regulating medicine. I believe they are advocates of the doctrine of the 'survival of the fittest.'" Wisconsin might be placed in the list of those having a law to regulate the practice of medicine, but the title indicates that it is simply An Act to prevent Quacks from Deceiving the People by assuming a Professional Title, and not really a law that may be classed in the same category as those mentioned previously.

[1] Dr. J. M. Taylor. Miss. Valley Med. Monthly, February, 1883.
[2] W. T. Bly. Early English Medical and Surgical Legislation. New York Medical Record, September 1, 1883.

Original Articles.

A FEW MEDICO-LEGAL FEATURES OF LIFE INSURANCE.[1]

BY MAX F. ELLER,

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THE beneficent institution of life insurance has, in proportion to its extent, perhaps more than anything else, been a fruitful source of litigation. With the exception of criminal law, there is no branch of legal science, both theoretical and practical, which presents so many features of medico-legal interest and which has contributed in such a marked degree to the study, investigation, and judicial settlement of controversies, largely based upon difficult or doubtful problems of forensic medicine. The reasons for this are not far to seek. The physical condition of the applicant for life insurance at and prior to the time of his application, his mode of life, his habits, his family history, the remote and proximate cause of death, nature of death, if known, and still more so if doubtful, suspicious, or mysterious, all furnish abundant and diversified material for misrepresentation, fraud, deceit, and many other sins of omission and commission. A great many persons, otherwise honest and conscientious, consider a life insurance company the legitimate prey of their fraudulent devices and conspiracies. This is not confined merely to persons desiring to insure their lives, but is also extensively practiced by the legal representatives or other claimants for the insurance money after the death of the risk. On the other hand, it must be admitted that, up to within recent times at least, a great many life insurance companies availed themselves of the most flippant excuses and the most frivolous pretexts to defeat honest claims. No doubt this has had something to do with the desire to "get square" at any cost. The law reports are full of cases in which an honest claim was contested on purely technical grounds, or on shallow subterfuges, with an expense of legal and medical learning worthy of a better cause.

It is a sign of a healthier tendency, that at the present time reputable companies content themselves with contesting those cases only which present either an important question, not hitherto judicially determined, or such an array of facts and circumstances of a suspicious or doubtful character, that *not* to make them the subject of judicial investigation and decision

[1] Read at the annual meeting of the Massachusetts Medico-Legal Society, June 10, 1884.

would be placing a premium upon fraud and dishonesty.

You are, no doubt, familiar with the more prominent medico-legal features of life insurance. They are nearly all, if the expression be permitted, of a post-mortem character. From the very nature of the contract between insurer and risk, and from the immense number of risks, scattered over a vast expanse of territory and among all conditions of men, it can easily be inferred that it is practically impossible, except in a few isolated cases, to ascertain before death those facts and circumstances which contribute to make a particular case the subject of medico-legal inquiry and investigation.

The examination of an applicant, both as to his previous history and habits and as to his present physical and mental condition, may be as exhaustive as possible, yet there will always remain a large margin for deception, misrepresentation, and concealment of important features.

Again, it is almost equally difficult to prevent deceit and misrepresentation in the proofs of death if the persons claiming the insurance money are bent upon it. *Almost* equally difficult, yet the chances of discovery and exposure of the actual state of affairs are much better on account of the greater number of persons necessary to the carrying out of the collusive scheme and conspiracy upon which the success of the fraudulent enterprise is based.

One of the most frequent attempts at deception is that of representing a death by suicide to be due to natural causes. This was practiced extensively for a long time and as stubbornly contested by the companies. The moving cause of this class of frauds was the popular fallacy, which up to this day has a great many sincere adherents, that suicide, *eo ipso*, is an evidence of insanity. Believing this to be the case, claimants had no scruples to misrepresent and deceive in order to obtain that to which they considered themselves fairly and honestly entitled, and at the same time avoid the odium of a suicide in the family.

The defense of suicide is now but rarely resorted to, and then only in flagrant cases, although the companies certainly never admitted the theory that suicide was an evidence of insanity. The policies still contain a suicide clause, but it is rarely made the basis of contest, except in cases like the famous Calvocorepes case or the more recent Dwight case, in both of which the attempt was made to establish the fact that unusually heavy insurance had been secured with the preconceived determination to provide liberally for the surviving family by committing suicide after payment of only one or but few premiums, and by giving it the appearance of natural death or homicide.

It seems hardly necessary to state that the defense of suicide cannot prevail if the suicide is actually committed in a condition of mental irresponsibility. Yet, in order to prevent that defense from gaining any foot-hold whatever in such a case, laws have been made declaring that it shall not be a defense if the suicide is committed by an insane person.

Such a law was passed by the Legislature of the State of New York at its last session. The necessity for such a law is apparent when it is considered that the companies have changed very materially the wording, and consequently the legal bearing, of the suicide clause in their policies. That clause formerly read, that the company should not be required to pay and the policy be null and void, if the insured shall die by his own act or hand. It now reads, that the "self-destruction" of the insured is *not a risk assumed by the company*. This makes it incumbent upon the claimants to prove that the risk is one of those which *are* covered by the policy and assumed by the company. As a rule this is a matter of grave difficulty and even impossibility.

The following is a case in point, to show the quandary in which claimants may find themselves under this clause, even when it is admitted that the risk, whether suicide or not, was sane at the time of death: —

Some eight or nine years ago a New York importer was found dead in bed in his boarding house. Nothing was found in the surroundings which would point to suicide, no weapon, poison, empty bottle, etc. The autopsy, performed by the deputy coroner, revealed, however, death by cyanide of potassium, whose odor when the abdominal cavity was opened was so strong that it drove even the coroner from the room. Under the rules of the company the minutes of the coroner's inquest and the verdict of the coroner's jury must be attached to and made a part of the proofs of death.

This had to be done in this case, but the claimants expressly stated that they did not admit the truth of the inquest and verdict, and did not consider themselves bound by them. The company having ascertained that the claimants, under an assignment of the policy, were a firm of creditors of the deceased, who had persistently and continuously dunned and pestered this man, and had thereby doubtless contributed in a large measure to his death, refused payment on the ground of self-destruction. Suit was thereupon brought upon the policy, the defense of the company being that the death of the insured was one of the risks *not* assumed by the company, being one by self-destruction. When the cause came on for trial the company's counsel, in cross-examination of one of the plaintiffs, introduced in evidence the proofs of death with the coroner's minutes and verdict attached thereto, and thereupon moved for a dismissal of the action on the ground that it appeared *primâ facie* that the deceased came to his death by his own hand, and that therefore the risk was one *not* assumed by the company.

The court held that the affirmative must be with the plaintiffs to prove the cause of death, in other words, that the plaintiffs must show affirmatively that the death was the result of one of the causes whereof the risk is assumed by the company. This ruling is in accordance with a decision of the United States Supreme Court in a leading case.

How could the plaintiffs, in the face of the coroner's verdict, prove that the death was a natural and not a self-inflicted one?

Under the law of New York, suicide, in order to be an available defense, must be proven by the party setting up such defense to have been the act of a sane person. The *onus probandi* is thus shifted, and justly so, both from a legal and equitable stand-point. The law does not and ought not to encourage any person or corporation to shield themselves by cunning devices and shrewd expedients against the consequences of their contracts and obligations.

On the other hand, there is no doubt that it is fallacious and illogical, as well as unscientific and unpsychological, to claim every suicide as the act of an

insane person, and to condemn the defense of insanity *in toto* on that ground.

The New York Penal Code makes it a felony to commit an attempt at suicide. While this is undoubtedly mistaken severity and wholly indefensible on corrective and philanthropic grounds, yet the underlying principle is a sound and just one, that is, that attempted suicide is not necessarily the deed of a person of unsound mind, but is an act which, though only directed against one's self, is more or less a violation and infraction of the rights of person, and is therefore punishable.

That it is a breach of contract for an insured sane person to lessen the probable duration of life by his own act cannot be denied. It matters not whether poverty or business reverses, unrequited love, or fear of punishment cause the act. Why should not a corporation have the right to consider a contract rescinded or violated for good and sufficient cause the same as a private individual? The answer is that in many cases, though hardly ever with the large and substantial companies, the keen competition and active rivalry between the companies has made it a matter of expediency and business policy for them to pay every claim, unless the fraud be a very gross and palpable one.

A great many cases have been published both in books and in the daily and periodical press, which are replete with the most interesting facts, especially those of mysterious disappearances, fraudulent suicides, fictitious burials, etc. Yet the most interesting cases from a medico-legal point of view are those where misrepresentations and concealment have been perpetrated by an applicant for insurance, or where the proofs of death have been so manipulated and falsified, either by the family or by friends and other interested parties, that it is very difficult, sometimes almost impossible, to ascertain the truth, which when at last found and established, ought to, if it does not, operate as a complete barrier to the payment of the loss.

There are three principal classes of cases which come under this category: —

First. Those where the applicant makes an intentional misstatement or concealment of the truth as to family history or previous illnesses from certain diseases, which, if admitted, would defeat the application. These cases are very frequent and most difficult to ascertain and prove. In a country like this, with its ever shifting, restless population, it is well nigh impossible to establish the truth or falsity of a person's declaration as to family history in regard to diseases which are commonly accepted as capable of hereditary transmission.

Then, again, how easy is it for a risk to claim entire ignorance of the existence or suspicion of any hereditary taint. In a long and varied experience in the investigation of doubtful and suspicious cases on behalf of one of the most prominent life insurance companies of the United States I have succeeded in but one case to demonstrate to the satisfaction of the company, and for that matter also to that of the claimants, that the representations as to the absence of hereditary taint were willfully false and knowingly untrue. This was a case where a prominent manufacturer in a large city of the Middle States had not only his own life, but also that of his three sons, insured for large amounts. The physical examinations were highly satisfactory, and all four were considered extraordinarily good risks. Within a few years the three sons, all of them at the time of death barely twenty-two or twenty-three years old, had died of phthisis pulmonalis, while the father continued to live in the enjoyment of the most rugged health. The death of the third son, following so shortly after that of the second and first, put the company upon its inquiry. I was requested to investigate the family history, without regard to time, trouble, and expense, and I succeeded, after the most patient and laborious searches, in a large number of places in city and country, in records of births, marriages, and deaths, cemetery and burial books, etc., etc., in obtaining a pedigree of that family for five generations back, which showed most conclusively the hereditary transmission of the disease on the mother's side, it appearing every second generation with surprising regularity. It goes without saying that the father of the three sons, *to whom all this was known*, when confronted with the proof, admitted the fraud and made even partial restitution.

Another interesting case which came under my observation, was that of the intentional concealment of a previous illness, which, if known to the company, would have debarred the applicant from insurance. It is often claimed, by those who find a particular delight in disparaging life insurance and the protection which it is bound to give to its beneficiaries, that the company, once having accepted a risk and having received the premium, ought not to try to "crawl out" of its just obligations by protecting and defending itself against such "trifles" as a few mistakes about previous illness, caused by so-called forgetfulness, absent-mindedness, etc., etc. The following case contains, perhaps, the best answer to these apologists of fraud and deceit: —

A prominent New York merchant of high business and private character obtained an insurance of $5000 on his life. A few years thereafter he applied for a second policy. The examination was entirely satisfactory. The application among other questions contained this one, "Have you ever suffered from gallstone?" To this he answered "No." The second policy was written also for $5000. Six months afterwards he died. The proofs of death stated as the remote cause of death "biliary calculus;" as proximate cause of death "ulceration and rupture of gall-bladder and internal hæmorrhage; duration of last illness twenty-five days." Now, like Rome, biliary calculi are not built in one day, and an investigation became necessary to ascertain, if possible, how long this man had suffered from biliary trouble. Permit me to say here, before completing the history of this case, that a coroner's or medical examiner's inquest, compared to the investigation of a doubtful or suspicious life insurance case, is but child's play. The family of the deceased are, of course, if not openly against you, at least non-committal and non-communicative; friends or acquaintances as a rule know very little or nothing about the essential and material facts. If they do, they have no inclination to tell what they do know for fear of being called upon to testify. The doctors immediately seek refuge and shelter in that convenient and charitable asylum called "privilege." Obstacles and closed mouths everywhere, open or concealed hostility on all sides, dust in the eyes, if possible, anything, every-

thing to prevent the truth from becoming known. The family physician is the most formidable obstacle. Self-interest, professional privilege, perhaps fear of detection of mistaken or unskillful diagnosis or treatment, all these contribute towards making him as silent as a sphinx, except as to the facts absolutely necessary to be stated in the proof of death. In the face of all this active and passive opposition the investigation must be carried on. A proper regard for the interests of other risks requires that a palpably fraudulent claim should be opposed, but it must be satisfactorily proven to be a palpably fraudulent one. This cannot be done, nor can an unfounded suspicion be dispelled, without the most thorough investigation. In the case mentioned, the following facts were ascertained after an exhaustive and searching investigation: In the winter preceding his second insurance, this merchant was attacked by a dangerous illness, caused by an obstinate constipation, which finally settled into an utter inability to defecate. Peritonitis followed. Several prominent physicians were called in consultation, not all together, but successively. Every one of them, independently of the others, diagnosticted the disease as a severe attack of biliary calculus. The peritonitis finally assumed the most alarming character. All remedies had failed to produce a movement of the bowels, and the patient was given up. He had been told by at least two of the physicians what the nature of his illness was, that it was "gall-stones." He begged that a certain physician, whose fame as a specialist in intestinal diseases had reached him, be sent for as a last resort. This was done. Copious injections of warm water, suggested by him, brought on the long delayed movement, and the patient recovered. This last physician also advised him of the nature of his illness, and warned him of its almost certain recurrence. Hardly had the patient recovered when he, no doubt bearing in mind the doctor's prophecy, proceeded to an attempt at defrauding the company out of five thousand dollars by fraudulent concealment of the true state of affairs. Can it be expected that the company in a case like this should submit to imposition and pay the policy?

Another very interesting case was that of a young man, whose life was insured for $10,000. A year afterwards he died. The remote cause of death was stated as general paresis, and the immediate cause as maniacal exhaustion. Investigation showed that prior to his being insured he had been afflicted with a severe attack of tertiary syphilis requiring protracted specific treatment. As soon as the evidences of that disease had disappeared, he took out the policy, carefully concealing the fact of his having suffered from venereal disease. Would he have been accepted as a good risk if he had told the truth and concealed nothing? The history of his last illness, laboriously obtained from reluctant and hostile witnesses, showed that the paresis was caused by or was the consequence of the syphilitic lesion, and that he received up to his death and while in the private lunatic asylum, where he died, specific treatment. Yet some of the physicians attendant upon him endeavored to make it a case of sclerosis of the posterior columns and of tabes dorsalis of other than venereal origin, and denied the specific treatment. Notwithstanding all these denials and evasions, the investigation established conclusively two facts: first, that the risk died of a disease which was the consequence of tertiary syphilitic lesion, and, second, that this lesion existed and was known to the risk to have existed before the policy was applied for. Will it be seriously contended that the company should acquiesce in such a fraud and offer no resistance to the claim based upon it?

It has been stated before that one of the chief obstacles in the way of a thorough and exhaustive probing of cases of this class is the rule, and what physicians understand and claim to be the rule, as to privileged communications. It must be confessed that the decisions of the courts, especially in the State of New York, are decidedly unfavorable to the publication by testimony or otherwise by a physician or surgeon of *any* information acquired while attending the patient, and that only the patient himself can absolve the professional attendant from the obligation of secrecy.

Section 834 of the New York Code of Civil Procedure says: "*A person duly authorized to practice physic or surgery, shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity.*" Our courts have held that this applies not only to facts and circumstances communicated by patient to doctor, but also to knowledge of facts and circumstances of his physical condition ascertained and acquired by the physician from attendance upon the patient, without being directly informed thereof by the patient.

Of course professional confidence ought to be protected to the fullest extent, as otherwise unscrupulous or recklesss professional men might be enabled to do a vast amount of mischief, either from mere carelessness and want of discretion, or for purposes of gain. But it is a serious question whether, as between parties to a dispute or controversy, justice should fail, so that the professional privilege may remain inviolate even when it is relied upon to protect from the consequences of fraud and deceit.

I venture to say, and I know that in saying so I place myself in antagonism to many able judges and lawyers, that the rights of society and the demands of justice and equity ought to be superior to the rights of individuals; that the law ought not to allow any man whose knowledge (not information) is necessary and material for the establishment of exact justice to withhold that knowledge from the court, and thereby perhaps defeat the overthrow of a vicious and fraudulent claim.

Take the above case of biliary calculus, for instance. There some of the attending physicians informed the patient of the nature of his illness. Their knowledge of its character was and must have been to a considerable extent obtained from information furnished by the patient himself. Should the testimony of those physicians be ruled out and a flagrant fraud be countenanced? For upon that fact hinges the entire issue. If the patient knew that he had biliary calculus and concealed that fact, that ought to be an end to the claim.

It has been my good fortune, in the many cases which I have investigated, to convince a large number of physicians that in giving the history of a case from notes of their observations only, they violate neither the spirit of the law nor that mysterious professional, shall I call it entity or nonentity, to wit, ethics. Those who could or would not be convinced had to be made to talk by stratagem, — the end justifies the means.

There is nothing the average physician delights in more than to find some poor victim at whom to fire broadsides of technical terms and scientific definitions. The saying is, that a little learning is a dangerous thing, but when a layman reads up a few generalities and elementary points on some particular medical question which he likes to have elucidated, the little learning generally is a dangerous thing — not for the layman. I have found this to work exceedingly well in many cases. The little learning shows the layman to be a man of some education, all the more easily, so the doctor thinks, to be impressed with Greek and Latin words, etc., because some of them are at least partially understood. Of course the main point is willfully misunderstood and misapplied by the layman, thus rendering a fuller explanation and further details necessary to deepen the impression. Then the layman begins to understand, but not yet fully. More explanations, more details, more questions and answers, and very soon the layman knows all he cares to know. The doctor imagines that he has impressed the interlocutor with his profound learning, but the latter has himself learned a thing or two. This process is not patented, and is cheerfully and unselfishly dedicated to the medical examiners of Massachusetts for use in their intercourse with the legal profession.

Second. The second class of cases are those where the applicant makes an intentional misrepresentation or concealment of the truth as to mode of life or habits, which, if admitted, would defeat the application. The majority of cases arising under this category are those of intemperance, although there are also occasionally cases of extra-hazardous occupations, which would, if stated, render the acceptance of the risk extremely doubtful. The habitual excessive use of alcoholic beverages has in its train a variety of dangerous diseases, such as probability of early death, exposure to fatal accidents and violent abbreviation of life, and for these reasons excludes applicants addicted to such habits. Their concealment, therefore, becomes necessary if insurance is sought, and it is astonishing what an overwhelming proportion of teetotalers and temperance men there is in this world, if the compilation of statistics be based exclusively upon life insurance tables. The moderate use of stimulants is not forbidden or deprecated, yet the majority of applicants, for fear of being rejected, refuse to admit even that. There seems to be no reason why the concealment of this habit, or whatever you may call it, should not vitiate the policy. The point to consider is, Would the risk have been accepted if he had been known to be a drinking man? And as the answer is an emphatic No, the answer to the question as to the liability should be the same.

A case in point is the following: A New York merchant of very convivial habits conceived the idea of providing for his family by securing a $10,000 policy, and then drinking himself to death. He had been a hard drinking man for years, which, of course, the company did not know. In furtherance of his design he did what he otherwise would not have done, he kept sober for a number of months, and, being a man of originally sturdy constitution and powerful frame, succeeded in destroying, or at least obliterating for the time being, all traces of his intemperate habits. His examination was eminently satisfactory. Among other things he stated that he never drank alcoholic liquors. The policy was issued, and within eight months thereafter he died of delirium tremens.

It was subsequently shown that from the day of the issuance of the policy to the day of his death his life was one continuous "spree," without any sober intervals.

The company refused to pay, the case was taken into court by the beneficiary, the widow, and the result was, as anticipated, a compromise.

This ending deserves nothing but censure, being but the compounding and condonation of a palpable fraud from motives of expediency and business interests. If the company had insisted upon a trial it would doubtless have received a verdict in its favor.

Third. This is a class of cases in which a forbidden occupation or journey is entered into, or a habit, detrimental to health and life, is acquired after the policy has been issued, and where the cause of death is attributable to such occupation, journey, or habit.

As to the first two (occupation and journey) the point is very clear. The latter (habit) presents a very interesting medico-legal question.

Habits of intemperance often degenerate into a condition which, in the light of modern medical research, cannot be regarded as anything else than a disease. Dipsomania, inebriety, alcoholism, whatever you may call it, is recognized and treated as a disease, and has found a distinctive place in the system of medical science. No one pretends to hold a person responsible for being afflicted with a disease, except it be self-inflicted or brought about by deliberate and willful exposure. Should a person with predetermination expose himself to the contagion of a dangerous disease, it would perhaps be very difficult to prove that such was the case, but should he deliberately use alcoholic stimulants or narcotics in excessive quantities and thereby acquire a habit which finally and imperceptibly changes into a disease, which is beyond his control, the matter would be quite different. In the latter case the perhaps at first involuntary foundation is laid for an impairment of those mental faculties and factors which, if in a normal condition, would be formidable obstacles to the physical change. In short, a physical habit is allowed to become a mental and physical disease, which is beyond the control of the individual just as much as typhoid fever or pleurisy.

Should such a tendency and proclivity be allowed to defeat a policy? To one who endeavors to be thoroughly impartial in matters of life insurance the answer must be unreservedly and emphatically a negative one, both from a medical and from a legal ground.

Fraud vitiates every contract, and for that reason the misrepresentations and concealments of applicants or others have been justly condemned, but in the class of cases under consideration there is no fraudulent intent; the minds of insurer and applicant meet on an honest, truthful basis. A guarantee by either party to do that which may be and undoubtedly is *ultra vires*, or to state it more correctly, not to do that which may and generally is *in futuro*, cannot and ought not to be enforced. The frailties and weaknesses of human nature must be considered, and the law, as applicable to the relations of individuals among themselves and to others, does take cognizance of them. If it did not it would not deserve its name. *Ultra vires nemo cogi potest* is as old as it is true. This class of risks the companies ought to assume, all conditions and provisions of their policies to the contrary notwithstand-

ing. Supposing the drinking habit is acquired by a patient to whom stimulants have been prescribed by a physician, and who continues their use after the necessity therefor has ceased to exist, simply because he contracted the appetite. Such a case came under my observation not long ago. It is very difficult, in the majority of instances, to ascertain the exact time when the habit was contracted and when it ceased to be a habit and became a disease. The defense of bad habits acquired subsequent to the issuance of the policy ought, in order to be consistent, to include all cases where the illness and death were the consequence of any and every kind of indulgence, nay, even of a reckless exposure to cold or heat or the seductive wiles of cucumber salad. Where would this lead to? There would be a defense to nearly every loss.

In the relation of insurer and insured there must necessarily be some *risk* beyond that of the probable termination of life based upon mortality statistics. It forms the basis of the relation, it is its vital point, and should have as liberal an application as is consistent with justice and equity.

There are numerous other medico-legal features of life insurance which furnish interesting data of investigation and discussion, but those mentioned in the foregoing pages are perhaps of the greatest importance.

The companies, as a rule, have not only from necessity, but as a result of enlightened administration and adaptation to the progress of science, kept pace with the advancing spirit of the age and the demands of modern research. Their medical work, both as regards statistics of mortality, epidemics, physical and chemical examinations and problems of mental responsibility, etc., has been done conscientiously and scientifically, and has been and is fruitful of valuable contributions to medical science in its theoretical and practical aspects. Their legal work has to a great extent thrown off the shackles of narrow-minded technicality and slavish interpretation, and, while not yielding one iota to the demands of the blackmailers and rogues, has sought to infuse the dealings of the corporations with claimants and beneficiaries with a commendable spirit of fairness and liberality which is the very essence of justice among men. To both combined we owe much valuable material for scientific research and beneficial discussion of mooted points.

If the preceding remarks have in any way contributed towards stimulating further progress and study of medico-legal science as applicable to life insurance, they will find in that result a welcome justification.

— The following model certificate is said by the *Chicago Weekly Medical Review* to have been copied by Dr. P. S. Conner from the records of the Pension Office in Washington: "The braud muscle which compresses, lowers, and extends the linea alba, the muscle of expiration is entirely severed thereby affecting the scorbutus cordi, which goes straight up to the navel or umbilicus, and from thence down to the pubis which is evidently the primordial cause of the frequent abscesses of the scrotum. Also from the fact of increased attachment necessarily causes increased cicatrix which is constantly increasing, and hence the increase of all the detrimental symptoms."

A CASE OF DIABETES INSIPIDUS.[1]

BY SAM'L. AUG. FISK, A. M., M. D. (HARV.),
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IT is always a delicate matter for a man to herald his bodily infirmities, and the reader, in this present instance, feels a hesitancy in presenting his own for the consideration of his professional brethren; but he has thought that the rarity of the disease to be spoken of and the fact that it has occurred in one who, by virtue of his being a physician, can note the symptoms with accuracy, would justify him in making this report, and that these considerations would also be a sufficient excuse for his being personal.

History. The subject of this disease is twenty-eight years old, and has, until within a few years, enjoyed health, although he has never been robust. When he was five years old he had an attack of "congestion of the lung." At fourteen years of age he was taken with acute inflammatory rheumatism, which lasted ten days or two weeks, and involved the joints of the ankles, knees, shoulders, and wrists, but did not affect the heart. Six years ago, in the spring of 1878, he was sent away from Boston, by the late Dr. Calvin Ellis, because it was found that there were dullness and subcrepitant râles at the base of his right lung, which signs cleared away without confining him to his bed. Two years later, in the spring of 1880, he was sick in bed for four weeks with a lobular pneumonia, — the acute catarrhal pneumonia of Niemeyer, — involving that portion of the lower lobe, on the left side, under and around the nipple. As this inflammation did not go on to resolution, but rather showed a tendency to spread, he was sent into the White Mountains for the summer, and in October of that year he came to Colorado. In November, 1882, he was examined by Dr. Austin Flint, Sr., and was told that one side of his chest was as sound as the other, and that no trace of the old trouble remained. So much for the personal history up to the time of the present attack.

The family history shows that his grandparents died in old age, except his maternal grandfather, the cause of whose death he does not know. His parents died in middle life, each of a valvular lesion of the heart. Brothers and sister are living and well. Three uncles on the father's side are known to have diabetes mellitus.

In October, 1883, while the reporter was busily occupied with professional and literary work, he noticed that he was passing a large amount of urine, but he did not make any measurements of the quantity. It must, however, have been at least double the normal amount. On the 31st of October he was attacked with inflammatory rheumatism, which proved to be subacute in its nature, and lasted, with the relapse, for six weeks, during the greater part of which time he was confined to his bed. The joints affected were the knees. The treatment was the salicylate of soda, in five-grain doses every three hours, in the early stage of the affection. Later, the acetate of potassium, twenty grains three times a day, was added, and for the last two weeks he was put on to salicin, ten grains every three hours, and the knees were painted with cantharidal collodion. All through the attack hypo-

[1] Read before the Denver Medical Association, Tuesday evening, May 13, 1884.

dermic injections of morphine, from a quarter to a third of a grain, were administered at night, and he was given ice to chew *ad libitum*.

Synchronously with the onset of the rheumatism the reader suffered from excessive thirst and a craving for the alkaline waters, such as Vichy. The artesian water tasted as though it were sweetened with molasses, and milk left a thick spittle in the mouth, while Vichy, or the iron Ute water, was palatable and "clean." These latter waters were obtained on draught at the fountains, and the average amount drunk *per diem* for nearly six weeks was two quarts. The total ingestion of fluids was about ten quarts a day, and the daily secretion of urine was from nine to ten quarts. An analysis of the urine showed: color, pale; reaction, slightly acid; specific gravity, 1003; albumen and sugar, absent.

The reader wishes to place especial emphasis upon this matter of excessive thirst. It was extraordinary, as the tongue and fauces would be parched and dry, even after drinking. The skin became furfuraceous, and the fingers puckered and so horny that the epidermis could be cut off as though from a corn. The delicacy of the sense of touch was impaired, and for weeks there was no moisture apparent anywhere on the body; in fact, it was impossible to produce sweating. Every once in a while a prickling, itching sensation would be felt in the skin, especially in the small of the back and on the inner side of the thighs. The emaciation produced by the rheumatism was marked, and there was, of course, great loss of strength. Convalescence was slow, and during it the polydypsia and hyduria continued. Water was the more palatable for being ice-cold, and the urine had to be voided nearly every hour. Thirty drops of dialyzed iron and three grains of the sulphate of quinine were taken three times a day.

About January 1, 1884, that is, after three weeks' trial, the quinine was discontinued, and the tincture of the chloride of iron was substituted for dialyzed iron.

As the reader supposed that the polyuria would disappear with the return of strength he did not pursue any treatment with especial reference to it beyond having a careful regard to follow a healthful regimen. With the return to his accustomed weight the tips of his fingers became rounded, and although the skin had previously been so dry that it cracked around the nails it now became somewhat moist, and perspiration occasionally appeared in the palms. It might be well to state, in this connection, that, in October, previous to the rheumatic attack, the prick of a pin over the inner edge of the gastrocnemius muscle of the right leg had produced sores which eventuated in regular eczematous ulcers. During the early part of January, 1884, the daily secretion of urine continued to be large, and an analysis showed the results to be the same as recorded, except that the specific gravity was lowered to near 1000. The bladder had to be emptied every hour, or hour and a half at the utmost, and the usual amount at each voiding was from 400 to 600 cubic centimetres. Of course this constant micturition interfered with sleep, as it necessitated the getting out of bed from six to ten times every night to pass water. The average secretion at night, during the sleeping hours, was and is at least 3000 cubic centimetres, and it reaches as high as 4000 cubic centimetres.

January 20, 1884. Ten drops of Squibb's fluid extract of ergot was given three times a day, and the treatment continued for two weeks; then the dose was increased to half a drachm, and finally to one drachm, three times a day, until four ounces in all had been taken. There was no decrease in the amount of urine, but the effect on the general health was so bad that the ergot was discontinued. The appetite was affected, and the sight of food nauseating. Constipation and flatulence existed, and the pulse-rate fell from 96 beats to 82 or even 76 a minute. The ergot produced marked muscular weakness, so that walking became an effort and was exhausting, and the patient noticed a tendency to go to the left in walking. When the drug was abandoned these symptoms disappeared, the appetite improved, the strength returned, and the functions of the bowels became normal.

After the patient had been under the treatment by ergot for two weeks a quantitative analysis of the urine was made. The solutions used and the methods employed were those recommended by Tyson. The utmost care was taken in the preparation of the solutions and in performing this and all subsequent analyses, and it was hoped that the results would be accurate. They were as follows: —

February 6, 1884. Daily amount of urine, 9000 cubic centimetres; reaction, very slightly acid; specific gravity, 1000; color, in small quantities, very pale; in larger amounts, a light greenish-yellow; odor, when freshly voided, slightly sweetish, like new-mown hay, but not marked; urophæine, the palest amethyst; indican, almost *nil;* earthy phos., scarcely a trace; alk. phos., very slight; albumen and sugar, absent; urea = 30 grammes; P_2O_5 = 2.1 grammes; SO_3 = 4.4 grammes; sediment, absent.

February 13, 1884. After taking drachm doses of ergot it was found that the amount of urine was 10,000 cubic centimetres; specific gravity, 1000; reaction, neutral; color, odor, and sediment as recorded above; urea = 40 grammes; P_2O_5 = 2.4 grammes; SO_3 = 4.4 grammes.

February 20, 1884. A week after the discontinuance of the ergot the results about as above.

March 1, 1884. Began the administration of

℞ Ferri et quiniæ citratis . . . . . gr. v.
Ex. nucis vomicæ . . . . . gr. ¼. M.

to be taken three times a day; also a half a drachm of Squibb's fluid extract of uva ursi three times a day. At the same time an eighth of a grain of the sulphate of morphia was given by the mouth three times a day, and seven drops of Magendie's solution were administered hypodermically at night. This latter amount acted as a stimulant, producing a mild delirium, which kept the patient awake for several hours after its administration, and also made him feel listless on the following morning.

The morphine was taken in this way for a week, and was then stopped for a few days, to be continued for another week.

March 27, 1884. After the above treatment strength and appetite good. Skin nearly normal. Weight one hundred and forty-seven pounds, full weight. Thirst and frequent micturition as annoying as ever. Analysis of urine: amount, 10,000 cubic centimetres; specific gravity, 1000; reaction, color, and odor as before; urea = 53 grammes; P_2O_5 = 2.2 grammes. This large amount of urea may have been the result of a nitrogenous diet, or have been caused by the work that the reader was doing at the time, as he had been

engaged pretty steadily during the month in writing for publication.

After an interval of ten days or so, during which all medication was discontinued, the exhibition of

℞ Zinci valerianatis . . . . . gr. v.
Ferri et quin. cit. . . . . gr. iij.
Ex. nucis vomicæ . . . . . gr. 1-7 M.
Sig. To be taken three times a day.

was taken up and continued for two weeks, and at the end of that time an analysis of the urine was made with the following results: —

April 23, 1884. Weight of patient, one hundred and forty-seven and a half pounds. Amount of urine for twenty-four hours, 9000 cubic centimetres; specific gravity, 1002; color, odor, and reaction as recorded before; albumen and sugar, absent; urea = 38.96 grammes; P_2O_5 = 2.4 grammes; SO_3 = 24.7 grammes. Appetite and general condition good. Skin moist, though still somewhat horny over the knuckles. General strength good, as was shown by the ability to walk long distances without fatigue. The total ingestion of fluids was at least 10,000 cubic centimetres. The thirst and frequent micturition continued as they had been all along. At this time the exhibition of all drugs was discontinued.

Remarks. The prominent features in the case just narrated are the secretion of a large amount of urine, of a low specific gravity, and the excessive thirst. For six months and over the average secretion of urine has been about 10,000 cubic centimetres *per diem*, while the daily ingestion of fluids has been fully as large.

The question might be raised in this connection as to whether the polyuria was produced by the polydypsia, the latter being the result of habit. The reader is convinced that such is not the case. In the first place there is evidently an inherited predisposition to diabetic troubles, then the onset of the disease was sudden, and from the first the thirst was excessive. The reader has tried to control this craving for fluids by eating ice, by drinking lime-juice, and also by drinking dilute H_2SO_4, by sucking lemons, and by limiting the amount of fluids ingested, and all of these measures have been of no avail. After abstaining from drink for a longer time than usual the thirst will become so intense that it requires a larger draught than usual to be satisfying and to give relief. Indeed, it seems to be absolutely necessary that the ingestion of liquids during the twenty-four hours should be somewhat in excess of the amount of urine voided in the same time.

The amount of urine secreted in an hour has been measured frequently, and it has been found to average about 500 cubic centimetres. For comfort it is necessary to empty the bladder every hour during the day, and if the time runs to an hour and a half the discomfort is extreme.

The secretion during the sleeping hours is between 3000 to 4000 cubic centimetres, and it requires that the patient should get out of bed about six times during the night for the sake of emptying his bladder.

In regard to the relation of the polydypsia to the polyuria Dr. Flint remarks, "There is no advantage in limiting the amount of fluids ingested. On the contrary the patient is rendered thereby uncomfortable, irritable, and the consequence is otherwise hurtful."

Dr. Brunton, in Reynolds', writes: "Acting on the notion that the polyuria was a consequence of polydypsia patients have been put on a limited amount of fluid, but without any good result, the tormenting thirst becoming increased, and the general condition worse."

Senator, in Ziemssen, says: "A *sudden deprivation* of ingested fluids may, on the other hand, not only have an injurious effect upon the subjective condition of the patients, who are much distressed by the thirst which torments them, but may also seriously endanger life by the drying of the tissues which is thus produced." In another place he writes: "It is to be noticed, however, that at any rate in a large majority of cases the thirst and the greater ingestion of fluids are secondary phenomena, dependent upon the increased diuresis." The reporter can testify that in his own case an interval of an hour and a half without the ingestion of any fluid produces a thirst as intense as he formerly was wont to experience after walking several miles on a hot day.

He has also noticed that intense mental application, as that of a game of chess or any nervous excitement, increases the activity of the secretion of the urine. The inconvenience of having to micturate frequently is most annoying, and has placed its subject in many embarrassing situations. Fortunately, although the night's rest is interrupted so frequently, it is sufficient in amount, and is refreshing.

The largest part of the fluid ingested is, of course, water, and almost invariably artesian water.

ANALYSIS OF ARTESIAN-WELL WATER.

Temperature	50½° F.
Color	Clear.
Smell	None.
Taste	Pure.
Reaction	Neutral.
Hardness	1.5
Suspended substances	None.
Free carbonic acid	1.05 grs. per gallon.
Solids (sol. in H_2O) consisting of carbonate of potassa	1.01 grs. per gallon.
Carbonate of soda	10.28 grs. per gallon.
Trace of chlorine and sulphuric acid, less than one tenth gr. per gallon.	

The *water does not contain* lime, magnesia, iron, or other metals; *does not contain* ammonia, sulphuretted hydrogen, nitrous acid, nitric acid, or organic matter.

Drugs. Dr. DaCosta has reported a case that was cured by the administration of the *fluid extract of ergot* in large doses. On the other hand, Dr. Tyson failed to get any good results by giving ergot in drachm doses. The theory of the drug's action in these cases is that it contracts the dilated renal capillaries, and hence diminishes the amount of blood supplied to the kidneys. In the present case ergot in drachm doses had no effect upon the secretion of urine, but it produced the most unpleasant effects upon the general health. *Morphine* was given on the theory that it would have a sedative effect on the nervous system, and also relieve any irritability about the sphincter of the bladder. It was taken in doses sufficient to produce a dryness of the fauces and a tingling sensation of the skin together with an itching of the nose. It produced, perhaps, a slight diminution in the amount of urine secreted, but the effect was not sufficient to warrant the continued exhibition of the drug. Morphine was given hypodermically at night in order to thoroughly narcotize the patient, and thus break up the habit, if habit it was, of his having to get up so frequently to void his urine. But when it was found, by a trial of several nights, that seven drops of Magendie's solution would produce a delirium which would keep the patient awake for several hours the experiment was not continued.

As the reader's attention was called to reports of cures from the use of the *valerianate of zinc* in five-

grain doses he determined to give that treatment a trial, but here, too, the results did not justify a continuance of the remedy. So far the effects of the drugs employed have not been good. There was, perhaps, a slight diminution of the thirst and of the secretion of urine under the morphine treatment, but they were not sufficient to justify the subject in taking the risk of contracting the opium habit.

Analyses of Urine. These were made with care, and the solutions were prepared according to the directions given in Tyson's work. I had expected to be able to give results which would be absolute and accurate, and until quite recently I had supposed them to be so. Within a few weeks, however, I have made further analyses which have made me somewhat distrustful of my solutions. These are two young men of nearly the same age and weight as the reader, and who are living under precisely the same condition as regards food, sleep, etc., as he.

CASE I. Age, thirty years. Weight, one hundred and forty-four and a half pounds. Analysis of urine, made April 20, 1884, shows: Amount, 1000 cubic centimetres; color, amber; reaction, slightly acid; specific gravity, 1024; albumen and sugar, absent; urea = 37.962 grammes; P_2O_5 = 2 grammes; SO_3 = 19 grammes. Sediment, a slight cloud, containing mucus and some dust.

CASE II. Age, twenty-six years. Weight, one hundred and forty-nine pounds. Amount of urine, 900 cubic centimetres; specific gravity, 1022; color, slightly high; reaction, acid; albumen and sugar, absent; urea = 31 grammes; P_2O_5 = 2.15 grammes; SO_3 = 13.95 grammes. Sediment, slight cloud, containing a considerable number of calcic oxalate crystals, which may have come from fermentative changes or a gouty diathesis, which he inherits, and some mucus and pavement epithelium.

Two other analyses were made in the cases of other young men in health and of nearly the age of the reader.

CASE III. Age, thirty years. Weight, one hundred and seventy-two pounds. Amount of urine for twenty-four hours, 900 cubic centimetres; color, amber; reaction, acid; specific gravity, 1023; albumen and sugar, absent; urea = 28.5 grammes; P_2O_5 = 1.83 grammes; SO_3 = 21.6 grammes. Sediment, slight, consisting of mucus and a few middle-sized, round epithelial cells, probably urethral.

CASE IV. (May 3, 1884.) Age, twenty-six years. Weight, one hundred and forty-seven pounds. Amount of urine, 1100 cubic centimetres; color, amber (slightly high); specific gravity, 1030; reaction, acid; albumen and sugar, absent; urea = 38.5 grammes; P_2O_5 = 3.146 grammes; SO_3 not taken. Sediment, slight cloud, containing mucus, a few crystals of calcic oxalate, and some spermatozoa.

For the sake of comparison we will tabulate these results, and place them in contrast with each other and with the normal standards given by Tyson, in the accompanying Table.

A consideration of this table shows us that the diabetic patient was secreting about nine times the amount of urine that the other men did, and that consequently while the total amount of solids contained in the urine was nearly the same as in the other specimens its specific gravity was very much reduced from the normal, that, in fact, it was only that of spring water. It is evident from the chemical analysis of the urine and from the fact that he is at his maximum weight, that the diabetic is not wasting in flesh. Our table shows us also that in all probability the analyses for SO_3 were erroneous. Indeed, as there is always a question in regard to the purity of chemicals, and as we do not know that any accurate data have been given of the effects of this climate and altitude on the renal secretions, we shall have to consider these results as comparative rather than absolute. In concluding our remarks on the analyses it may be well to state that the tests employed for the detection of sugar were those of Fehling, Trommer, Moore, and Boetger.

	Date.	Weight.	Age.	Amount.	Sp. Gr.	Color.	Urea.	P_2O_5.	SO_3.	Total Solids.
Normal.....	-	-	-	1500 cc.	1020	Amber.	20-40 grms.	3-5.6 grms.	8-4 grms.	29-50
Case I.....	April 20th.	144½	30	1000 cc.	1024	Amber.	37.962 grms.	2 grms.	19 grms.	58.962
Case II.....	April 20th.	149	26	900 cc.	1022	High.	31 grms.	2.15 grms.	13.95 grms.	47.1
Case III....	April 24th.	172	30	900 cc.	1023	Amber.	28.5 grms.	1.83 grms.	21.6 grms.	61.93
Case IV.....	May 3d.	147	26	1100 cc.	1030	High.	38.5 grms.	31.46 grms.	-	-
Diabetic.....	April 23d.	147½	28	9000 cc.	1000	Pale.	28.96 grms.	2.4 grms.	24.7 grms.	66.06

Bristowe writes: "In some cases the patient appears to be well in all other respects, and, except for the continued presence of his infirmity, enjoys life, probably attaining old age. In some cases he presents all the usual indications of diabetes mellitus, and, after a longer or shorter time, dies as ordinary diabetics die."

Bartholow gives the following prognosis, namely: "Although death is rarely due to the disease, the prognosis is not favorable as to cure. In most cases the disease is rather an inconvenience, owing to the fre-

quent calls to micturate and the incessant thirst, than a dangerous malady."

In the latest edition (1881) of Flint's Practice of Medicine we read: "It is not incompatible with good appetite, digestion, and nutrition. It has been tolerated fifty years. The prognosis is favorable as regards the duration of life and the preservation of the general health if the disease be uncomplicated, but it is unfavorable as regards recovery from the disease."

Dr. Brunton, in Reynold's, says: "This disease resists treatment, and is rarely cured. The duration of life, in general, does not seem to be greatly shortened by it." And Senator (Ziemssen) writes: "Permanent recovery from this disease is rare, but death, in uncomplicated cases, is still more rare."

In conclusion the reporter wishes to put on record the fact that, six months after the onset of the disease, he is in the possession of strength, good appetite, and full weight, and the confident hope of being able to bear his full share of the burden of caring for the sick for many years to come.

REPORT ON LARYNGOLOGY AND RHINOLOGY.[1]

BY FRANKLIN H. HOOPER, M. D.

FRACTURE OF THE LARYNX BY DIRECT VIOLENCE.[2]

An accident of infrequent occurrence, and of great interest from a medico-legal point of view. The thyroid cartilage in its normal state is of such a structure that interference with its continuity can only result under very untoward circumstances. The laryngeal cartilages, however, are liable in advanced life to become the seat of ossific deposit, and then to be more easily fractured. The injury in this case resulted from the free use of a piece of wooden rail. The post-mortem appearances were those of death by suffocation. The thyroid cartilage, more especially the right half of it, was broken up into many pieces, one of which hung free in the lumen of the tube, evidencing great violence. Ossific change was very extensive.

TREATMENT OF FRACTURE OF THE LARYNX.

Dr. K. Wagner, of Konigshütte, points out[3] that fracture of the larynx is very rarely met with, and that not even the most experienced surgeons are in a position to derive from personal experience fixed rules for treating this injury. Most observers, however, agree that in such cases the first indication is the performing of tracheotomy to prevent suffocation. Occasionally, where there is much displacement of the fragments, it is advisable to perform thyrotomy. A case is reported of multiple fracture of the larynx which led the author to consider the subject of the treatment of this injury, and convinced him that further therapeutic measures were necessary beyond opening the trachea. The subject of this case was a robust and very powerful man whose neck had been forcibly squeezed in a fight. He remained unconscious for about half an hour, and on recovering himself found that his breathing was very bad. On the following day, when the patient first came to the notice of Dr. Wagner, there was extreme dyspnœa; and, with coughing, much blood, partly fluid, partly coagulated, was brought up. The face, neck, and surface of the thorax were distended through emphysema. There was found to be free abnormal mobility of the left wing of the thyroid cartilage; and during the prompt performance of superior tracheotomy the cricoid was found to be also fractured and partly torn away from the upper ring of the trachea. The patient did well up to the third day after the date of operation, when signs were presented of hypostatic pneumonia on the left side, and there was complaint of acute pain beneath the sternum. On the evening of the fourth day there was free bleeding from the wound in the trachea, and on the following day the patient died. On post-mortem examination there was found to have been mediastinal emphysema and suppurative mediastinitis. The lungs, with the exception of the lower lobe on the right side, appeared quite healthy.

Dr. Wagner thinks now that in any similar case of laryngeal injury thyrotomy would be indicated, not so much for the purpose of replacing any fragments of cartilage, as for rendering the seat of fracture antiseptic, and for maintaining for a time this antiseptic condition. In a recent case of this kind, he would, after having plugged the trachea, incise the larynx in the middle line, and then separate the two wings of the thyroid cartilage so as to be able to see the whole interior of the larynx, and to apply some antiseptic fluid. He would then plug the interior of the larynx with small pieces of iodoform gauze. The wound would thus be rendered antiseptic, the fragments of broken cartilage be kept at rest, and the risk of hæmorrhage be diminished. If there be no longer any danger of infection, a late thyrotomy, it is held, is still justifiable if performed with a view of putting displaced fragments in a better position, and, if the thyroid cartilage be fractured, of uniting the alæ by silver suture. If the fragments of the thyroid cartilage cannot be thus united, or if stenosis cannot be prevented, Dr. Wagner would advocate extirpation of the partially detached portion of thyroid cartilage and even removal of half the larynx. In a case reported by Billroth in which this partial operation had been performed, a good voice was retained, and, at all events, the patient is thus placed in a better position than that of having to go through life with a completely useless and much obstructed larynx.[4]

IRRITATION OF THE SEXUAL APPARATUS AS AN ÆTIOLOGICAL FACTOR IN THE PRODUCTION OF NASAL DISEASE.

The evil effects of undue excitation or disease of the generative apparatus upon the organs of sight and hearing are well known to specialists in these departments. In the April number of the *American Journal of the Medical Sciences* Dr. John N. Mackenzie quotes authorities to prove the fact that immoderate indulgence in venery may lead to derangements of sight was familiar to Aristotle, and that the fathers of medicine recognized some mysterious connection between the ear and the reproductive functions, and that the intimate relationship between the genital organs and those of the throat and neck attracted the special attention of the ancients. While historical facts point to the early recognition of the relationship between over-in-

[1] Concluded from page 80.
[2] James Oliver, M. B., Lancet, June 30, 1883.
[3] Centralbl. f. Chir., No. 23, 1883.
[4] London Medical Record.

dulgence of the sexual powers and morbid conditions of the eye, ear, and throat, the special part which it plays in the production of nasal disease seems to have been heretofore overlooked. Dr. Mackenzie points out the intimate physiological relationship between certain portions of the reproductive system and the erectile nasal tissue. Clinical observation has shown him that: (1.) In a fair proportion of women suffering from nasal affections the disease is greatly aggravated during the menstrual epoch, or when under the influence of sexual excitement. (2.) Excessive indulgence in venery seems to have a tendency to excite inflammation of the nasal mucous membrane or to aggravate existing disease of that structure. (3.) The same is true in regard to the confirmed habit of masturbation. (4.) The coexistence of uterine or ovarian disease exerts sometimes an important influence on the clinical history of nasal inflammation. These observations, therefore, encourage the belief, if they do not establish the fact, that the natural stimulation of the reproductive apparatus, as in coitus, menstruation, etc., when carried beyond its normal physiological bounds, or pathological states of the sexual apparatus, as in certain diseased conditions, or as the result of their overstimulation from venereal excess, masturbation, etc., are often the predisposing, and occasionally the exciting, causes of nasal congestion and inflammation. Whether this occurs through reflex action, pure and simple, or as the sequel of an excitation in which several or all of the erectile structures of the body participate, the starting-point of the nasal disease is, in all probability, the repeated stimulation and congestion of the turbinated erectile tissue of the nose. It is highly probable that this erectile area, so sensitive to reflex-producing impressions, is the correlative of similar vascular areas in the reproductive tract, and that the phenomena observed may accordingly be explained by the doctrine of reflex or correlated action.[1]

DEPENDENCE OF ASTHMA ON DISEASES OF THE NOSE.

Macini describes[2] three cases in which he believes that asthma depended on a pathological condition of the nasal mucous membrane. His first case was a woman aged forty, who, with the exception of bronchitis and slight emphysema, was in good health. For the last two years her nose had been partly stopped up, and she was obliged to breathe constantly through her mouth. She frequently suffered from true asthmatic attacks, chiefly by night. On examination it was found that the nasal mucous membrane was greatly swollen, and that completely blocking the nostrils with cotton wool increased the severity of these attacks. The nostrils were made pervious by the galvano-cautery, with the result of curing the attacks, and enabling her to sleep peacefully. The second case was that of a woman aged thirty-four, whose right nostril was blocked by mucous polypi; her difficulty of breathing was cured by removing the polypi. The third case occurred in a man, aged forty, who had suffered from his youth from frequent attacks of coryza and difficulty of breathing. He gradually grew bronchitic and emphysematous, and his nose became blocked by considerable swelling of the mucous membrane. The difficulty in breathing increased gradually, till he suffered from attacks of true asthma. As soon as the obstruction in the nose was removed his asthmatic attacks became very much less severe. Macini considers that in these cases the asthmatic attacks were reflex, caused in susceptible persons by a peripheral stimulation of the nerves in the mucous membrane of the nose.

LYMPHATIC DISCHARGE FROM THE NOSE IN LEUCOCYTHÆMIA.

Dr. Cornil[3] relates the case of a patient suffering from leucocythæmia who had a discharge from the nose of a thick, transparent, glairy fluid. It flowed slowly but constantly, and was neither thin like the discharge of a commencing coryza nor opaque like that of a more advanced nasal catarrh, but contained a large quantity of white corpuscles. The patient did not sneeze, nor were there any tickling sensations in the nose. At the autopsy the mucous membrane of the nasal fossæ was seen to be smooth, without ulceration, but thickened in places. The thickened parts presented a gray color on section. They were formed by an infiltration of the connective tissue with a mucous, transparent fluid like lymph. It was this leucæmic infiltration of the Schneiderian mucous membrane which was the cause of the nasal lymphorrhœa.

THE VALUE OF CERTAIN SINGLE SYMPTOMS IN THE DIAGNOSIS OF DISEASES OF CHILDREN.

Among the "single symptoms" which Emeritus Professor Politzer[4] enumerates as in some cases pathognomonic is a *strongly marked nasal or palatal cry.* This is present in, amongst other complaints, syphilitic ozœna, hypertrophied tonsils, and paralysis of the soft palate; but where these can be excluded it affords very strong presumption of retropharyngeal abscess. Dr. Politzer relates that on one occasion he was examining a child when the nurse passed through the room bearing another, four months old, in her arms. On hearing it give this nasal cry he stopped the nurse, but the mother affirmed that the baby was quite well. However, Politzer introduced his fingers and felt the expected swelling. This was incised, and a large quantity of pus evacuated.

THE TREATMENT OF CORYZA.

Surgeon-major G. E. Dobson, in a note in the *Lancet*, May 31, 1884, recommends the following as an effective method of treating this troublesome complaint. About a drachm of camphor, coarsely powdered, is placed in an ordinary shaving jug, which is then half filled with boiling water. The patient, having made a cone (out of a sheet of brown paper or an old newspaper) large enough to surround his face by its wide extremity and the mouth of the jug by its narrow end, proceeds to respire freely, at each inhalation drawing the steam into his nostrils, and at each exhalation forcing it up against the outer surface of his nose and adjoining parts of the face. A two-fold action is produced: the camphorated steam acts internally in a specific manner upon the whole extent of the mucous surfaces, and, externally, produces profuse diaphoresis of the skin covering the nose and sides of the face, there acting as a derivative from the inflamed Schneiderian membrane. The patient should

[1] New York Medical Record.
[2] Gazz. de Osp., 1883, No. 77-79.
[3] Revue Médicale, August 11, 1883.
[4] Jahrbuch für Kinderheilkunde, Band xxi., Heft 1.

continue his respirations from ten to twenty minutes, repeated three or four times in as many hours.

A NEW DIVERTICULUM OF THE NASO-PHARYNGEAL SPACE.

Dr. O. Pertik[1] describes a new diverticulum situated in the naso-pharyngeal space. It was discovered in a man about fifty-five years of age, who had died suddenly. On removing the cervical vertebræ and the tissue at the back of the pharynx a fluctuating, bilateral, symmetrical sac was observed, composed of fat and connective tissue, which projected laterally and downward over the upper part of the concave wall of the superior constrictor of the pharynx. Instruments could be passed into it from the lower part of the nasal passage, and it was found, when examined, to be nearly filled with coagulated blood. Two similar cases are reported by Luschka and Zuckerkandel. Dr. Pertik believes that these formations are congenital, and that their effect is to alter the normal resonance quality of the voice.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M. D., SECRETARY.

JUNE 7, 1884. The meeting was called to order at eight o'clock, DR. E. M. BUCKINGHAM in the chair.

After presentation of a summary of the report of the previous regular and special meetings of the Section the reports of committees were called for.

The SECRETARY announced that the committee appointed at an earlier meeting to take into consideration the question of the milk supply of Boston had prepared a partial report, which was in the hands of the secretary, who, by request, read as follows: —

PRELIMINARY REPORT OF THE COMMITTEE APPOINTED TO TAKE INTO CONSIDERATION THE MILK SUPPLY OF BOSTON.

The committee appointed at the meeting of the Section on February 27, 1884, "whose duty it shall be to report upon the whole subject of the providing of milk for Boston, and suggest the means of obtaining it pure for the citizens," have attended to that duty, and have held several meetings, at which all, or nearly all, the members of the committee have been present. They have visited the section of country from whence most of the milk supply of Boston is derived, and have endeavored to ascertain the manner in which it is treated at the farm where it is produced, and have followed its history as nearly as possible until it is delivered in the city. The committee has on several occasions had the benefit of the advice and counsel of those interested in the purity of our milk supply, and has considered the question of a change in the present methods of transportation and delivery, and has carefully examined several forms of cans for the transportation and delivery of milk, and has also made careful study and examination of many samples of milk obtained from different sources representing some of the various grades of milk sold for consumption. The committee has been so fortunate as to receive the offer of every facility for the continuance of its work from the office of the State Board of Health, as well as from that of the City Board of Health, and has been promised the assistance of the Milk Inspector of Boston in its efforts to devise a means for improving the quality of milk supplied to the people.

A work of such magnitude as that which has been intrusted to your committee could not be concluded in the limited time since the appointment of the committee, and it is desired at this time to present a preliminary report of progress with the suggestion that the committee be continued and allowed to prosecute its labors, and report to the Section at some future meeting of the Society.

The labor intrusted to the committee seemed legitimately to commence at the source of supply, the farmer's stable, where the cows are housed, and consequently one member of the committee has made a personal inspection of the farms and dairies in several localities. The investigation was made in four towns in Worcester County. It is the usual custom of the farmers after milking one or more cows to strain the milk into the eight-and-a-half-quart cans furnished by the contractors, which, when full, are set in cellars during the winter months, and in warm weather lowered in springs, wells, or put in tubs supplied with running water. A can partially filled in the morning is mixed with enough evening milk, after it is cooled, to fill the can. A letter or mark with chalk on each stopper indicates from whose farm the milk is obtained. Just before the milk is called for by the collector the stoppers are put in place. During the evening it is transported to the railroad station and put on board cars especially designed for this purpose. In the winter a small stove is used to prevent freezing. In the summer the cans are iced with great care. The milk arrives in Boston early the next morning, and is delivered to the distributers during the day.

Many farmers are careless in cooling the milk, and as a result it is returned sour by the contractors. This is nearly a total loss to the farmer, as he receives no pay, and often the cream has been removed.

Many of the cows were very dirty. Their hind flanks were covered with manure an inch or more thick, which must often drop into the pail, and is, no doubt, the deposit so frequently found in the consumer's supply. The contractors often complain to the farmers for not being more careful in this regard.

If a farmer waters the milk it is immediately returned, and to every man who comes to the car it is whispered very privately that Mr. W. has been caught, and a request "not to say anything about it." In a few days all in the town know it, and if the man chances to be a church member his punishment seems to be adequate.

None but "grade" cows are kept for supplying "railroad" milk, and their food is such as to improve the quantity rather than the quality. In the winter English hay, shorts, cotton-seed meal, roots, and occasionally corn meal are fed. In the summer grass and corn fodder.

But very few of the farmers have silos.

The prime defect in the present system of milk supply appears to your committee to consist mainly of two factors, namely, the employment of such a kind of can as admits of being opened without detection,

[1] Arch. für Path. Anat. und Phys. und für klin. Med.

whereby the milk may be variously manipulated in the form of addition or subtraction, or both, and which gives to the consumer a deteriorated quality of milk, as the analyses of the State Board of Health conclusively show, the proportion of specimens which were found to be adulterated amounting to ninety per cent.

The other defect in the present system of supply is the habit, now almost universal, of keeping the milk received on one day until the next morning, thereby adding a considerable amount of time, sometimes as much as twenty-four hours, to the age of the milk when it finally reaches the consumer. This is a disadvantage in another respect, as it exposes the milk to whatever deleterious influences or infective processes may be contained in the place of storage, where it is necessarily exposed to the air in the process of mixing and putting into small cans for family service. The temptation to adulteration which here exists should not be forgotten, and it is at this part of its journey that by far the larger part of all adulteration is committed.

Any practical method of delivery to consumers immediately on the arrival of the milk in the city depots, and of avoidance of the process of mixing and re-canning would seem to offer a remedy for these two greatest dangers to which milk is exposed.

It might be said that it would only be inviting the farmer to adulterate the milk instead of allowing the retail milkmen to do so, but this would be less likely to occur, as any particular dairy could be easily identified, which is not possible under the present system.

Another disadvantage attending the prolonged keeping of milk arises from the necessity of adding some chemical substance to prevent fermentation and souring. This addition may not be directly injurious, but it is an adulteration, and the addition of any foreign substance to milk should be condemned. It is also to be feared that the additions made to milk, particularly that sold in stores, are not always harmless.

The committee has examined several varieties of cans and glass jars for the transportation of milk from the source of supply. The system of glass jars has never been practically tried in this city, but from places where this system has been introduced it was learned that the loss by breakage is very considerable, amounting, on an average, to a complete renewal of the entire stock of jars once in three months. Your committee is unable to find any place where this system has long remained in operation except in the case of certain private individuals who carry on a limited business in milk, and charge an unusual price. This system seems entirely unsuited to the requirements of a general milk supply, and your committee cannot recommend it. A can holding sixty quarts was brought to the attention of your committee, and illustrated by a model. This can is of steel, made without solder, and is of strong and durable character. It is provided with a large opening for cleansing purposes, and may thus always be thoroughly freed from impurities before receiving milk. This can is to be filled at the farm of supply, and when full a cover is placed in the opening and securely fastened and sealed with lead so that it is thereafter impossible to obtain access to the interior of the can until the seal is removed by an authorized person. In this can the milk is cooled and transported to Boston in the same manner as is now done with the ordinary can. The milk can be withdrawn as required, only by inverting the can, when it flows freely from a valve-opening, which closes automatically the instant the milk ceases to flow through it. It is practically impossible to tamper with the contents of this can after the cover is adjusted, and efforts to introduce water by the orifice for pouring out the milk were not successful. Air is allowed to enter the can to replace the milk as this is poured out, by means of a second guarded opening, through which it is impossible to introduce any foreign substance whatever. The advantages claimed for this can are its imperishable nature, its ease of cleansing, its perfect protection of the milk from manipulation or contamination, the thorough mixing of the milk at every withdrawal by the necessary inversion of the can, the impossibility of removing the cream from the milk, and a saving of several hours of time in the age of the milk when it is delivered to the consumer.

The objection was raised that the adoption of this can would preclude the possibility of obtaining the milk of one cow separately for the use of infants or invalids. The committee considered this point carefully, and came to the conclusion that this constituted no objection, inasmuch as the milk now furnished to the people of Boston is almost invariably brought to the city in large tin cans, and is put into service cans for family use at the milk sheds after its arrival in Boston. It is, therefore, practically impossible to secure the milk from one single cow for any purposes whatever. Your committee also came to the conclusion that one cow's milk presented no advantage to recommend it above the mixed milk from a dairy of several cows. Indeed, the advantage seemed to be on the side of the mixed milk, as this constitutes a protection to a certain extent against the perturbations of health and of the quality of milk supplied by any one animal.

Your committee also desires to point out the fact that the majority of people taking milk from milkmen are not acquainted with the varying character of this secretion at different times of year and under different conditions of health in the cow.

During the months when the cows are fed on hay the milk is generally much paler and somewhat thinner than when the cows are at pasture. By demanding at all seasons of the year a quality in milk which exists in it at only one season the people unconsciously encourage adulteration of milk, and thus defeat their own best interests.

With the hope of placing a supply of pure and wholesome milk within the reach of the inhabitants of the poorer parts of the city, and especially of sick children and invalids, your committee would suggest the establishment of "milk stations" in accessible and well-known localities, possibly in connection with the district dispensary establishments, or at certain drug stores, to which the poorer people, and particularly the sick, might be referred by physicians or others, and by means of a ticket or voucher obtain a supply of pure milk at a cost within their means, instead of buying, as is now too often the case, milk which has been diluted sometimes to the extent of sixty per cent.

It is in the poorer parts of the city that the greater proportion of adulterated milk is to be looked for, and therefore it forms the supply of those who most need a pure and wholesome article. There can be but little doubt that the rate of mortality among children might be materially affected if it were possible to furnish pure and fresh milk to the inhabitants. The "depots,"

as suggested above, seem to your committee to be a step in this direction.

Signed by the committee.

HENRY O. MARCY, *Chairman.*
E. W. CUSHING.
LLOYD F. ABBOTT.
HENRY J. BARNES.
ALBERT N. BLODGETT, *Secretary.*

The report of the committee was accepted, and, in accordance with the suggestion contained in the paper, the committee was continued, in order that its labors may be prosecuted still further, and the utmost benefit be derived from the thorough investigation of an important branch of domestic supply, upon which the lives and health of a large proportion of our population are more or less directly dependent.

The hour being already somewhat late, it was voted that the reading of the papers appointed for this evening, by Dr. F. C. Knapp, on "Observations on the Cutaneous and Tendon Reflexes," and Dr. F. Minot, on "Three Cases of Distended Gall-Bladder," be postponed to the next meeting. The readers having expressed their approval of this arrangement, and there being no further business before the Section, it was voted to adjourn, at 9.15 o'clock.

Medical and Surgical Journal.

THURSDAY, JULY 31, 1884.

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ELECTRIC NEUROSIS.

THE public exhibitions which have been given of late in some of our large cities of Lulu Hurst, in which it is claimed that the girl is able to exert upon inanimate objects a force, which while not muscular, is able to oppose and overcome muscular force exerted against it, have attracted popular and professional interest. And while it is true that those best qualified to judge who have witnessed these exhibitions have been generally of the opinion that the force exercised by Miss Hurst is capable of satisfactory explanation as being the product of strong muscles, trained with especial reference to overcoming by sudden and unexpected movements the steady and even attentive resistance of an opponent unpracticed in the best way to meet these sudden onsets, yet it is of interest to learn in this connection of well-observed cases of real electric force disengaged by the human body, — involving nothing especially occult or mysterious either. In *Le Progrès Médical* (July 5th) a short article by Féré speaks of some of these cases.

In the first case described in this paper, a woman of neuropathic constitution, twenty-nine years old, with perversions of appetite, ovarian excitability, etc., had noticed from girlhood the production of sparks in her hair when it was combed, but this common phenomenon during the two years before she came under Féré's observation had increased in intensity. Light objects clung to her fingers, and the hair not only gave forth sparks on being combed but obstinately stood up on end, each hair repelling its neighbor. When her linen approached the skin it caused a luminous crepitation, and her vestments adhered strongly to her body; sometimes this adhesion impeded her movements. These phenomena were noticed by Féré on several occasions. A few strokes of the hand on a napkin spread on a piece of wooden furniture caused the stuff to adhere strongly to the wood, and from it sparks could be drawn a centimetre in length. The most intense electric discharges followed lively moral emotions, for instance when she had just heard a piece of music which had deeply moved her. The crackling sounds were then perceived all over the body, especially in the legs, and a disagreeable pricking sensation was produced. Frosty weather favored the electric phenomena, but damp days hindered them; a change in humidity could even be predicted several days in advance, from modifications in the electric tension. A high electric tension corresponded with a state of excitation clearly appreciated by the patient herself; but in wet weather when the tension diminished there was general lassitude.

This patient, who was ill nourished and anæmic, had a marked œdematous infiltration of the legs, which possessed the peculiarity of nearly disappearing in dry weather, and in damp days increasing so as almost to prevent locomotion. The loss of electricity was met in the treatment of the case by directing silk clothing, and in moist weather she was given an electric bath of ten minutes daily, with relief to the sensation of fatigue.

Other cases have been reported. Mussey [1] speaks of a case of a woman of thirty, of nervous temperament, who, during an aurora borealis, was suddenly charged with electricity, whose presence showed itself by sparks when the woman, by chance, passed her finger over the face of her brother. This phenomenon lasted with variable intensity for two months and a half. In the most favorable conditions she sent from her finger to a copper ball four sparks a minute an inch and a half long.

Other cases are recorded in which electrical phenomena, especially noted in the hair, seemed to have a relation to mental irritation, to neuralgic attacks, and other manifestations of nervous derangement. So long ago as 1846 Arago described to the *Academie des Sciences* a young girl who appeared to him to have the power of attracting certain light bodies and repelling others without touching them, but these facts were not reproduced before the committee of the Institut. It is, perhaps, needless to say that every such claim should be subjected to the most searching investigation before its validity is allowed. The ability of hysterical women to fool the public mind is very

[1] Extraordinary Case of Animal Electricity. American Journal of Medical Science, 1837, vol. xxi., p. 377.

great. We confess to a feeling of suspiciousness of people of any class who "attract light objects to their fingers." And we suspect that most of the influence exerted upon surrounding ponderable matter by women exhibiting themselves either for fame or for money emanates from a contraction of the *flexores digitorum*.

TREATMENT OF THE VEGETAL PARASITIC SKIN DISEASES.

WHATEVER conflicting views may be held respecting the rôle of microphytes in internal pathology (and certainly the germ theory of contagious diseases seems every day to be receiving fresh support), there are certain communicable skin affections which by common consent of dermatologists are attributable to the irritation caused by parasitic fungi. The proof that the diseases in question are occasioned by the presence of the fungi is such as to satisfy every scientific requirement. The presence or absence of the parasite always attends presence or absence of the pathological condition; the disease can be induced by topical communication of the spores of the microphyte, as Gruby found with reference to the *Tricophyton tonsurans* more than forty years ago; eradicate the fungus and you eradicate the cutaneous affection, as has been shown in innumerable instances; finally, the spread of the eruption varies concomitantly with the extension of the fungus.

The phyto-parasitic diseases are Trichophytosis, or ringworm, due to the lodgment and growth of the *Tricophyton tonsurans;* Tinea favosa, or favus, caused by the *Achorion Schonleinii;* Chromophytosis, or Pityriasis versicolor, dependent on the germination and development of the *Microsporon furfur*. Four varieties of Trichophytosis are described, which recognize the same cause but differ in appearance by reason of their locality, namely, Trichophytosis-capitis, barbæ, corporis, and genito-cruralis. The vegetal parasites are microscopic organisms, akin to bacteria and vibriones, presenting themselves under the aspect of cells, isolated or multiple, which latter are often united end to end, in the form of straight or flexuous tubes. They are constituted of three principal parts: mycelium, spores, and receptacle. The first represents the body of the organism, the second are the reproductive elements, the third is composed of filaments springing from the mycelium, and which bear the spores. But little is as yet really known as to the natural history of these cryptogamic formations; they are undoubtedly polymorphous. Hallier believes that the human phyto-parasites belong to a small number of species which are capable, under different conditions of culture, of undergoing profound modifications. Their typical condition when grown where there is free access of air is that of *moulds;* the state of *achorion, leptothrix, torula, tricophyte*, etc., results from privation of air or of light.[1]

As for the habitat of the cutaneous parasites, the microphite of chromophytosis luxuriates among the inner epidermic cells; its spores and mycelium do not invade the hair follicles and hairs, which are the favorite sites of the achorion and trichophyton tonsurans.

The treatment of these parasitic skin diseases is one of great simplicity; as they arise from local, not general, causes (except so far as debilitated conditions of the organism favor the invasion and ravages of the fungus), topical measures are generally sufficient for a cure. Unfortunately, however, it is not always easy to meet the indication of "bearding the monster in his den," by a suitable parasiticide. While the habitat of the microsporon that causes chromophytosis is sufficiently near the surface to be accessible to lotions or ointments containing sulphur, mercury, chlorine, etc., and the same may be said of the trichophyton that causes ringworm of the body, the affections of the hairy scalp and beard, and tinea cruris, the so-called eczema marginatum, are much less manageable. In tinea of the scalp and beard the mycelia and spores of the parasite penetrate deeply the hair follicles, and even invade the roots and fibres of the hair; the infiltration is always distant from the surface, and hence is not easily reached. Therefore in order to destroy the fungus *in situ* epilation is necessary. This, to be effectual, must be done thoroughly, a little at a time, every hair being carefully plucked out by the roots with the epilation forceps; then a solution of carbolic acid or of corrosive sublimate (one grain to the ounce) should be applied. The solution readily penetrates to the follicles through the track left by the hairs. Instead of the corrosive sublimate solution Vlemingk's solution of sulphur and quick lime may be used after epilation. The principal discouragements arise from imperfect removal of hairs, which, owing to their brittleness, easily break off during extraction, leaving the stumps remaining with the roots and follicles to continue the disease. In these cases epilation will have to be repeated as fast as the hairs grow out again. In cases where thorough epilation has proved impossible or inefficacious it was several years ago proposed by Dr. Alden Smith to produce an artificial kerion by croton-oil inunctions, thus instituting a severe inflammatory process by which the fungus is destroyed. This practice has been adopted with varying success by dermatologists in all parts of the world. Instead of croton oil, goa powder and ointment of chrysophanic acid have been used with the same intention. Dr. Robert J. Lee, in the *British Medical Journal*, July 21, 1877, was one of the first to protest against this mode of treatment as being unnecessarily severe. After a long experience with inveterate cases he found a combination of olive oil, sulphur, and carbolic acid to be the most satisfactory. One drachm each of precipitated sulphur and oxide of zinc, with sixteen grains of crystallized carbolic acid, is added to one fluid ounce of sweet oil. This must be rubbed in every five hours with a sponge or brush, the head being washed with castile soap and warm water every night and morning before the application of the carbolized oil. He regards this preparation as sufficiently penetrating to destroy spores which exist under the horny layers.

[1] Fournié, Applications des Sciences à la Medecine, Paris, 1878, page 668.

Dr. Morris Smith, in the *Lancet*,[1] strongly advocates the use of a solution of thymol in chlorcform (thymol, 3ss, chloroform, 3ij, olive oil, 3vj) as being the very best antiseptic and parasiticide of which he has had experience. By adding coloring matter (asphalt) to this solution he had had ocular demonstration that the dye had penetrated the follicles (the subject on which he experimented and from which portions of the skin were taken for examination being a dog). The oil in the above prescription is added to arrest the evaporation of the chloroform and to prevent it from acting as an irritant. By the use of this preparation, he says, "the disease is more quickly cured than by any other method I have ever tried." The oil should be well rubbed in after first washing the diseased scalp with soap and water. After the treatment is commenced neither soap nor water should be again used.

In the July number of the *Journal of Cutaneous and Venereal Diseases* the subject of the treatment of the vegetable parasitic diseases is ably discussed by Dr. Shoemaker, who insists first on attention to the constitutional condition. If debility exist tonics and good food are demanded. To lessen the ravages of the parasite and destroy it he would first interdict water, frequent use of which favors the development of the parasite. The diseased surface should be cleansed every day with sulphuric ether or with a mixture of equal parts of ether and alcohol with a few grains of thymol. Another good antiparasitic is equal parts of ether and alcohol with boracic acid. In trichophytosis capitis he first procures isolation of the patient. The spread of the contagion may be prevented or lessened by washing the parts in ether or an alcoholic solution of borax. This should be followed by oiling the hair and scalp with a solution of thymol (ten to twenty grains to an ounce of sweet oil). He orders the seat of the eruption to be sponged with a weak alcoholic solution of thymol, borax, naphthol, or corrosive sublimate. To the surface thus cleansed he rubs in a fifty per cent. solution of boro-glyceride till the whole scalp seems saturated with it. Borax is one of the most efficient antiparasitic agents, and is mildly astringent and soothing. Glycerine penetrates and carries the substance into the follicles to the parasite; it also withdraws water from the tissues, thus depriving the fungus of one of its main elements of development. The solution should be applied night and morning with a little sponge or mop, and should be well rubbed into the follicles with the tips of the fingers.

Oleate of copper is excellent where the above means fail. It has the power of deep penetration to the parts, especially the follicles. The ointment is made by blending one part of oleate of copper with nine parts of lard. A small piece of this ointment should be rubbed over the affected surface night and morning till all traces of the disease have disappeared. A ten per cent. ointment of oleate of mercury has also given good results.

Rubbing in croton oil to produce an artificial Kerion is only to be resorted to in very chronic cases where all other means fail.

The same treatment holds for *trichophytosis barbæ*. As for trichophytosis corporis, mild forms are, in the writer's experience, readily cured by the use of the thymol, naphthol, and corrosive sublimate solutions, while obstinate cases readily yield to the copper oleate.

In favus the oleate of mercury is generally sufficient to effect a cure if well rubbed into the scalp after the necessary epilation and removal of the epidermal scales and cups.

[1] London Lancet, April, 1881. (American Reprint.)

FEMALE PHARMACISTS.

AMONG the new means of livelihood which women have claimed for themselves at the present day is that of pharmacy. At Louisville, Ky., a school has been established for giving instruction in this calling. It has just completed the first year of its existence and has graduated a few students. It had its origin in a demand for special educational facilities by certain women, already engaged in the business, and others desiring to enter thereon. While the School is designed especially for the instruction of women, yet male pupils are admitted on application, provided there is an excess of room after the wants of women are supplied.

The dispensing of drugs and the compounding of prescriptions is an occupation, so far as we can see, within the physical capability of women. While the calling of the pharmacist involves great responsibilities, yet they are such as can be mastered by a person of steady hand, clear eye, sober and accurate habits, who has in addition to these qualifications a proper training in practical chemistry and in pharmacal manipulation. These latter elements are now offered in the Louisville School, and we have no doubt that in so far as the former ones are present in the students who apply for instruction, the results will be satisfactory both to them and the public.

One thing, however, should be borne in mind by women entering upon this as well as upon other callings formerly limited to the other sex. In the evolution of modern society women have changed their relation to the world's work. No longer do they, as in the days of chivalry, from on high —

> "Rain influence and judge the prize
> Of wit or arms."

Far be it from us to say that woman's present position among the world's workers is one of less inherent dignity than that she formerly held. But the point to be emphasized is this, that having made the change, having come down into the soil and turmoil, she can no longer expect to receive the chivalrous devotion which was the accompaniment of the feudal institution. Work is a leveler, and distinctions of sex as well as of class disappear before it. Men are not likely to abandon the callings which they have been used to follow. In pharmacy as in everything else they are already in the field. Competition everywhere is sharp; in it the weaker always go to the wall and the stronger survive, whether they be men or women. The

golden rule is the most favorable code that women can hope for, and if they always are treated in accordance with that they will be faring better than most men. Any special consideration by virtue of their sex they must not expect. Employers will not pay for a month's work if there have been only twenty-eight days of service, and if in the competition of any calling woman suffers because of her physical limitations, she must accept the fact of those limitations and not quarrel with their necessary consequences.

PARALDEHYD.

THIS hypnotic, which is proposed as a substitute for chloral, has been somewhat used of late. Like chloral it is not useful for the relief of pain, but only to promote sleep in insomnia. It is a liquid with an agreeable, somewhat ethereal (?) odor and unpleasant taste; it is, however, less irritating than chloral. In some instances only it is said to have caused nausea. In diseases of the stomach or in advanced phthisis it is contra-indicated.

It does not exert much influence on the respiration or on the circulation, which would suggest that it may be more safely administered in cardiac affections than the more common hypnotic chloral. The dose of paraldehyd is rather larger than that of chloral, and it must be increased as the system becomes tolerant of it. At present it is much more expensive than chloral, but this disadvantage would doubtless be readily overcome should it prove to have any material advantages over its older rival. It may prove to be a useful substitute for, or alternate with, chloral in cases where that drug is not found to agree with the patient, or when it is desired to interrupt from time to time its long continued use.

MEDICAL NOTES.

— The *Dublin Journal of Medical Science*, speaking of the use of vaseline to prevent loss of alcohol from specimen jars, says that in a paper with this title, by Prof. Burt G. Wilder and Dr. Simon H. Gage, of Ithaca, N. Y., attention was called to the fact that the petroleum preparation termed vaseline was known to be practically unaffected by ordinary temperatures and by most substances. In the *Journal of the Chemical Society* for July, 1882, page 785, it was said to be sparingly soluble in cold, strong alcohol, and completely in hot, but to separate out on cooling. After trying various substances — wax, paraffine oil, and glycerine — with but partial success, the use of vaseline was suggested by the two authors independently and nearly at the same time. The experiments tried last spring indicated that during three months, at ordinary spring and summer temperatures, there was no appreciable loss of ninety-five per cent. alcohol from glass phials or jars, whether upright or inverted or on the side, provided the corks were smeared on the bottom as well as on the side. Ground-glass stoppers were anointed and firmly inserted, and the rubber rings of fruit jars and the specimen jars, made by Whitall, Tatum & Co., were coated on both sides and the covers well screwed down. The authors had also used the vaseline for preventing the loss of other liquids, including chloroform and oil of turpentine, as a lubricator of drawers, and to prevent the sticking of the covers or stoppers of cement phials, and for the prevention of rust upon steel instruments.

— The *Pacific Medical and Surgical Journal* has been consolidated with the *Western Lancet*, and is to be edited by Dr. Whitwell, who is a graduate of Harvard, and should be well fitted for the position which he is to assume.

— M. Rigaud, in the *Journal de Therapeutique* speaks favorably of collodion as a remedy for the pleuritic pains often so harassing in phthisis. It is applied in successive layers till a sort of cuirass is formed, solid enough to withstand movements of the chest. If a split occurs it should be immediately repaired by a new application.

— In its application to carious teeth, remarks *Progrès Médical*, creosote is often inconvenient in consequence of its fluidity producing ill effects upon the mucous membrane of the mouth. This may be obviated by giving to it a gelatinous solidity by adding ten parts of collodion to fifteen of creosote. This, besides being more manageable than liquid creosote, also closes up the orifice in the tooth, preventing the accession of the air to the dental nerve.

— Dr. Betz (*Memorabilien*, January, and *Medical Times*, June 11th) strongly recommends nitrate of silver in spinal irritation as a means of relieving the attendant pain whatever may be its primary cause. A solution of one part of nitrate of silver to one hundred of alcohol is thoroughly applied twice a day not only to the painful parts, but also for some distance beyond these, and, when necessary, along the whole spinal column. The liquid penetrates quickly, and soon dries up, producing an agreeably cool sensation, and very seldom gives rise to any irritation of the skin. This painting of the parts will have to be continued for weeks or even months, especially if there is any disease of the spine itself present.

— A report was read before the Sub-Section on Public Health of the Academy of Medicine in Ireland (*Medical Press*, July 9th), by Dr. Cameron, on antiseptic experiments in the vaults of St. Michan's Church, Dublin, celebrated for their antiseptic properties. Bodies dry up in a desiccated mass rather than decompose when deposited in these vaults. The author placed an infusion of melon in Tyndall's tubes, and having submitted both to a high and prolonged temperature so as to sterilize the liquid, he placed a number of them in a vault of the church which seemed to possess the greatest antiseptic properties. The tubes were deposited with great caution, and in such a way as to occasion the least possible disturbance of the atmosphere. The extremities of the tubes were broken by means of hot forceps, and the vault was kept locked up for six weeks. They were then removed from the vault. Seven of the tubes presented no change, but in the remaining five there was great

turbidity, owing to the development of mycelium, etc. In the case of the liquid kept in the unbroken tubes at the laboratory of the Royal College of Surgeons no turbidity was noticed in their contents. On nipping ends of the tubes of those kept in the laboratory and the sound ones brought from the mortuary vaults turbidity set in under forty-eight hours. The author did not venture to draw any positive conclusion from these experiments, but their results seem to show that the preservation of the liquid was due to the great freedom from dust which he noticed in the vault. Franklin, the reader remarked, had found that in the higher Alps organic infusions remained for a long time freely exposed to the air without undergoing decomposition, a fact attributed to the freedom of the air at great altitudes from dust, which, of course, included germs of various kinds.

— A correspondent of the *Medical News* says that an operation of enterotomy was recently performed upon a Pittsburgh lady of wealth. The surgeon removed four inches of the small intestine, uniting the divided ends by sutures. She recovered. He charged $1000 for the operation and twelve days' attendance. As payment was refused he brought suit. The jury gave a verdict for $330, which was thus arrived at: Each put down the amount he would allow. They then divided the aggregate sum by twelve, and thus reached the verdict. In some other similar cases that we have heard of it would seem as if each juryman must have divided the figures of his individual estimate by twelve before averaging.

PHILADELPHIA.

— Prof. Robert E. Rogers, who held the chair of chemistry in the Jefferson Medical College, has resigned.

Miscellany.

A STATEMENT IN REGARD TO THE CHARGE OF NEPOTISM AT THE MASSACHUSETTS GENERAL HOSPITAL.

IT is sometimes said that the nominations of the visiting physicians and surgeons for house pupils at the Massachusetts General Hospital are influenced by nepotism, and that a connection of any member of the staff is sure to get the appointment he wants, to the exclusion of all other candidates. The list of appointments for house pupils both on the medical and surgical services of the hospital for eleven years from 1874 to 1884 inclusive, obtained from a report recently made by a committee of the Board of Trustees, — at whose request this publication is made, — tends to show how entirely without foundation such statements are.

It appears that out of forty-four appointments on the surgical side five were of gentlemen in some degree connected with surgeons who had at some time been upon the hospital staff.

Out of twenty-two appointments on the medical side three fall into a similar class.

On the surgical side the appointments were: A. T. Cabot, 1875; George G. Hayward, 1879; W. D. Hodges, 1880; John Homans 2d, 1881; Edward Reynolds, 1884.

On the medical side there were: J. J. Minot, 1877; V. T. Bowditch, 1878; Henry Jackson, 1883.

Of the surgical appointments three, Messrs. Hayward, Homans, and Reynolds were not connected with any member of the staff which nominated them. Mr. Hayward's grand uncle and the grandfathers of Messrs. Homans and Reynolds had been upon the staff, probably before the birth of those gentlemen.

On the medical side Messrs. Bowditch and Jackson had no connections upon the nominating staff. There remain, then, out of sixty-six appointments three gentlemen who were connected with members of the staff nominating them. But there is no reason to believe that these gentlemen were nominated for any other reason than merit.

The allegation that when a relative of any member of the staff applies for a position he is sure to get it is further disproved by the fact that several instances have occurred where such relatives have failed to obtain the places applied for, because the staff did not consider them the best fitted for the place.

The object of the Trustees is to appoint as house pupils the best available men. They attach the greatest importance to the nominations sent them by the staff; but they regard these nominations as only one (perhaps the most valuable) among several sources of information concerning the candidates.

It would be a mistake to suppose that those appointments are offered as prizes to the best scholars, or to those who pass the best examination by the staff. Those examinations are not intended to be thorough tests of knowledge. Candidates who have maintained high rank at the Medical School, and who are successful at the examinations of the staff, have secured important advantages. But besides good scholarship other qualifications are to be considered, such as dexterity, good character, good manners, tact, the power of getting on with other men. In short, all the qualities, moral, intellectual, and physical, which go to make the successful physician or surgeon, the Trustees try to obtain in the house pupils. If those qualities should be found in the highest degree in candidates who were also near relatives of members of the staff it would be the duty of the Trustees to appoint them.

THE ORGANIZATION OF AN INTERNATIONAL SCIENTIFIC ASSOCIATION.

MR. CHARLES S. MINOT writes in *Science* (July 25th), regarding the movement on foot to secure the establishment of an International Scientific Association, that there is now in circulation for signatures a request supported by some of the leading scientific men of America, and addressed to the two national associations which meet on our side of the ocean this year. This request is to the effect that the two bodies shall consider the advisability of forming an international association.

Mr. Minot enumerates some of the advantages in an association of this sort, and adds: —

"As regards the special occasion of founding the new organization, the advocates of doing so in America this summer maintain that another opportunity is not likely to soon re-occur so favorable as will be af-

forded by the meeting of the British Association in Canada, followed immediately by that of the American Association in Pennsylvania. If the scheme is carried out, it will, in fact, be the legitimate and anticipated culmination of a movement of which the coming to America of the British Association is one part. In 1881 the proposal was made that the American Association invite the British to America. This was actively discussed, and finally it was determined — largely, I believe, from motives of real modesty — to postpone the invitation, and issue instead a large number of special requests to individuals to attend from abroad the meeting of our Association at Montreal. This duty fell to the local committee of Montreal in 1882. The large number of foreign visitors who came revived the hope that the British Association could be induced to come over as a body. The matter was then independently taken up by the Canadians, and pushed generously and eagerly towards the great success which every one now anticipates for the gathering at Montreal. From the first it has been understood that if the original enterprise, which was in many ways so full of difficulty, should be brought to a successful issue, then the still greater enterprise should be broached, and the foundation of a permanent international association be attempted.

"It is hoped that the British Association will take some action in the matter. It has been suggested that a committee with powers might be appointed to confer with the American Association at Philadelphia. The organization of the latter body is such that no further official action on its part is possible until the time of meeting itself; but there can be no doubt as to the cordiality with which any proposal emanating from the British Association will be received. At present no definite plans have been formed, as it has been felt that public discussion was necessary before making any decision; but, as it is advisable to gather as many suggestions beforehand as possible, I shall be glad to correspond with any one interested in the proposal."

A REMARKABLE EPIDEMIC OF SORE THROAT ORIGINATING IN A MILK SUPPLY.

IN the *Practitioner* for June appears an account of an epidemic of sore throat occurring in February last in Dover, England, distinctly traceable to a milk supply from cows suffering from aphthous fever (foot and mouth disease). In four days 188 persons were attacked by a malady whose leading symptoms were uniform in the whole series of cases. These symptoms were local inflammation of the throat, accompanied by enlargement of the lymphatic glands of the neck, vesicular eruptions preceding and accompanying the inflammation. During the week ending February 9th 205 persons were attacked, all of whom obtained their milk supply from one particular dairy.

The houses in which these people resided were distributed in forty-two different streets in the town, widely separated from each other.

In nineteen of these streets (or nearly half of the whole number) every house supplied by this milkman was invaded by the epidemic, whilst, with one or two doubtful exceptions, no other cases could be heard of in the same streets, at any rate none of sufficient gravity to require the services of medical men. Thus the striking fact was exhibited of an exact correspondence between the milk supply and the houses invaded by the epidemic.

In the remaining twenty-three streets where this milk was delivered, out of eighty-six houses supplied fifty-one were invaded by the disease.

The number of persons attacked in each house stricken averaged 2.5 per house.

In thirty-one houses there was only one case in each; in twenty-one houses, two cases in each; in fifteen houses, three cases in each; in seven houses, four cases in each; in five houses, five cases in each; in three houses, six cases in each; in one house, seven cases; and in another nine.

The marked correspondence between the victims of this epidemic and the customers of a particular dairyman attracted attention, and investigation was made. He obtained his milk from a dairy of his own in Dover and three farms in the country. From the former source he furnished a special supply to a few customers in separate cans. In one case it was found that a gentleman and his wife who used milk brought thus in a sealed can escaped the disease, while the servants in the same house, using the mixed milk, were attacked.

At one of these establishments in the country it was found that aphthous fever had broken out amongst the stock on January 14th, and that milk from some of the affected cows was delivered to the Dover dairyman, and, after being mixed with other milk, distributed to his customers. Moreover, it was from this infected farm alone that the Dover dairyman obtained the supply of cream furnished to his customers.

At the beginning of the inquiry it was stoutly denied that any of the milch cows had suffered from disease, and a certificate from a veterinary surgeon and inspector to this effect was obtained and published. Recourse was had to the police, and the truth gradually oozed out, until the facts, as above stated, were established beyond dispute; then the farmer not only admitted the fact of the disease amongst the milch cows, but confessed to the sale of their cream and milk in Dover not only to the dairyman whose milk was specially implicated, but also to another milkman, on two separate occasions, amongst whose customers a second simultaneous outburst occurred. Thus a second experiment was performed with this tainted milk amongst another set of individuals with like results to the first, contributing (if such corroboration was necessary) additional evidence of the presence of poison in the milk supplied from the infected farm.

The diseased cows and stock, which were clearly shown to be suffering from the symptoms of the foot and mouth disease, were kept in low, close sheds surrounding a small yard, which was full of decaying manure, rotting turnips, and the infected excreta, so that the specific poison, after elimination from the animals, would, instead of living structures, have for its pabulum decomposing and putrefactive organic matter, swarming, doubtless, with the bacteria attending these changes.

In one case personally observed by the reporter of the epidemic this milk administered raw to a dog produced a blistered and inflamed condition of the buccal and labial mucous membrane, and inflammation of the skin and cellular tissue between the toes of one foot terminating in suppuration.

In the human subjects attacked the vesicular erup-

tions were followed, either by a raw, red, œdematous appearance of the mucous membrane or white patches, and the ulcers which supervened assumed, in many instances, a chronic character, with thick, puckered edges, and were a long time in healing.

When the inflammation of the tonsils went on to suppuration recovery was much slower than after common quinsy, and the enlarged cervical glands remained tender, red, and swollen long after the throat symptoms had subsided, resembling in this respect the sequelæ of scarlet fever. Erysipelas and purulent formations were concomitants also of the epidemic. In some instances the feet of those who suffered were swollen and painful, simulating rheumatism, and in one case eczema occurred between the toes of the feet, the affection being accompanied with very fetid exhalation.

A fatal termination resulted in the cases of two children, who had very bad throats and mouths, with the extension of the disease, in one case, to the respiratory tract, their deaths being, in the opinion of the medical attendant, due to the poisonous effects of the milk.

Two persons who labored under chronic kidney disease were respectively attacked with sore throats, and died on the same day, other people in the same houses suffering also from the epidemic sore throat.

In one house three persons were attacked, on the 4th February, with sore throat; one of these was a servant girl, who was sent home, and seen by the hospital surgeon on the 9th at twelve A. M., and died at four P. M. Mr. Wood gives the following history of the case: —

"F. S., attacked five days previously with sore throat and pains in the limbs, complained on the 8th of great pain in the epigastric region and dyspnœa. There was a purple-red patch on the left cheek extending to the nose. At three P. M. on the 9th she passed into a state of coma, and died at four P. M."

Mr. Wood says this was an obscure case, but thinks it possible that it was one of blood-poisoning.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 19, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diphtheria and Croup.	Measles.
New York	1,340,114	870	540	44.62	9.66	33.95	2.76	3.57
Philadelphia	927,995	470	247	25.41	11.34	15.41	3.36	.21
Brooklyn	644,526	371	237	60.03	8.07	47.23	2.42	1.08
Chicago	632,100	369	264	55.36	3.24	38.07	1.08	3.24
Boston	423,800	181	86	35.75	13.20	26.95	2.20	—
Baltimore	408,520	183	103	40.95	10.37	31.12	1.63	1.09
St. Louis	400,000	192	99	33.28	6.24	24.44	2.08	1 04
Cincinnati	272,400	108	45	32.16	16.50	24.76	3.67	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	104	52	28 80	14.40	22.08	1.92	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	40	29	57.50	6.00	37.50	1.25	—
New Haven	62,882	37	—	62.10	13.50	54.00	5.40	—
Nashville	54,400	28	—	46.41	10.17	17.85	10.71	—
Charleston	52,286	35	18	14.25	11.40	11.40	—	—
Lowell	71,447	23	13	47.81	8.68	43.47	—	—
Worcester	69,442	27	15	40.70	7 40	30.30	3 70	—
Fall River	62,674	33	22	51.51	6.06	42.42	3.03	3 03
Cambridge	60,995	19	6	10.52	10.52	—	5 26	—
Lawrence	45,516	27	19	51.80	11.10	40.70	—	—
Lynn	44,895	15	5	33.33	11.11	—	—	—
Springfield	38,090	15	12	73.26	6.66	59.94	—	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	16	9	50.00	—	37.50	—	—
New Bedford	30,144	13	5	—	15.38	—	—	—
Salem	29,503	10	5	20.00	30.00	—	—	—
Chelsea	24,347	6	3	16.66	16.66	—	16.66	—
Taunton	22,693	6	1	66.66	—	16.66	50.00	—
Gloucester	21,400	6	1	16.66	—	—	—	—
Haverhill	20,905	10	3	10.00	30.00	—	—	—
Newton	19,421	4	0	—	—	—	—	—
Brockton	18,323	6	4	50.00	—	13.33	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	5	1	—	—	—	—	—
Fitchburg	13,433	4	2	50.00	25.00	50.00	—	—
Eighty-nine Massachusetts towns	407,998	99	37	13.13	11.11	6.06	1.01	—

Deaths reported 3232 (no reports from New Orleans, Buffalo, Pittsburg, and Milwaukee): under five years of age, 1883; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases), 1301, diarrhœal diseases 984, consumption 317, lung diseases 160, diphtheria and croup 89, measles 53, typhoid fever 43, scarlet fever 39, whooping-cough 37, cerebro-spinal meningitis 20, malarial fever 20, puerperal fever 10, small-pox one. From *typhoid fever*, Philadelphia 12, New York and Chicago five each, Boston four, Baltimore and Nashville three each, Brooklyn, St. Louis, Cincinnati, and District of Columbia two each, Lowell, Lawrence, and Chicopee one each. From *scarlet*

fever, New York 11, Philadelphia six, Baltimore and District of Columbia three each, Brooklyn, Chicago, Boston, St. Louis, and Cincinnati two each, Providence, New Haven, Lawrence, Springfield, Gloucester, and Natick one each. From *whooping-cough*, New York 10, Brooklyn eight, Philadelphia six, Boston five, Baltimore three, Nashville, Worcester, Cambridge, Lynn, and Brockton one each. From *cerebro-spinal meningitis*, New York three, Philadelphia, St. Louis, and Providence two each, Chicago, Baltimore, Charleston, Worcester, Fall River, Lawrence, and Springfield one each. From *malarial fevers*, New York eight, St. Louis four, Baltimore three, Brooklyn two, Philadelphia, Nashville, Lynn, and Chicopee one each. From *small-pox*, Philadelphia one.

In 156 cities and towns of Massachusetts, with an estimated population of 1,383,104 (estimated population of the State 1,955,104), the total death-rate for the week was 18.58 against 17.68 and 15.35 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending July 5th, the death-rate was 19.5. Deaths reported 3279: acute diseases of the respiratory organs (London) 231, diarrhœa 175, measles 126, whooping-cough 103, scarlet fever 61, fevers 46, diphtheria 25, small-pox (London 30, Liverpool three, Sheffield two, Hull one) 36. The death-rates ranged from 13.4 in Brighton to 26.1 in Huddersfield; Birmingham 15.7; Blackburn 17.9; Bradford 19.2; Leeds 19.9; Leicester 18.9; Liverpool 20.8; London 19.6; Nottingham 22.4; Sheffield 19.4. In Edinburgh 18.2; Glasgow 25.9; Dublin 21.

For the week ending July 5th, in the Swiss towns, there were 32 deaths from consumption, lung diseases 26, diarrhœal diseases 20, typhoid fever six, diphtheria and croup four, whooping-cough one, puerperal fever one. The death-rates were, at Geneva 16.3; Zurich 5.9; Basle 13.9; Berne 18.9.

The meteorological record for the week ending July 19th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
July, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 13	29.580	67	77	62	99	62	78	79	SW	NW	NW	10	8	9	O	O	C	—	—
Mon., 14	29.590	65	75	58	69	52	79	67	W	W	W	15	15	12	C	F	C	—	—
Tues., 15	29.717	65	74	57	73	43	62	59	NW	NW	NW	14	13	8	C	F	C	—	—
Wed., 16	29.693	63	73	54	69	66	84	73	W	NW	NW	9	9	8	O	F	C	—	—
Thurs., 17	29.772	66	75	57	74	67	75	72	W	SE	NW	10	6	5	C	F	F	—	—
Fri., 18	29.893	67	74	60	76	76	90	81	NW	S	SW	6	5	7	C	O	F	—	—
Sat., 19	29.809	70	81	62	83	71	76	77	SW	S	NW	6	20	14	F	O	O	—	—
Mean, the Week.	29.722	66.1	75.6	58.6				72.6										8.53	0.70

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY FROM JULY 19, 1884, TO JULY 25, 1884.

WRIGHT, J. P., major and surgeon. Assigned to duty as post surgeon. San Antonio, Texas. Paragraph 4, S. O. 87, headquarters Department of Texas, July 14, 1884.

WRIGHT, J. P., major and surgeon. Granted leave of absence for one month on surgeon's certificate of disability. Paragraph 3, S. O. 89, headquarters Department of Texas, July 17, 1884.

HARTSUFF, ALBERT, major and surgeon. Leave of absence extended one month. S. O. 79, headquarters Div. of the Missouri, July 18, 1884.

STRONG, NORTON, first lieutenant and assistant surgeon. Granted leave of absence for two months, to take effect when relieved from duty in Department of the Platte. Paragraph 2, S. O. 68, headquarters Div. of the Missouri, June 27, 1884.

APPOINTMENTS, BOSTON CITY HOSPITAL. — Dr. William P. Bolles has been appointed visiting surgeon.

Dr. Edward J. Foster has been appointed visiting physician.

BOOKS AND PAMPHLETS RECEIVED. — The University of Minnesota, Minneapolis. 1883-84. College of Medicine. Special Announcement. May, 1884.

Quarterly Report of Medical Officers United States Army, with their Stations and Duties. July 1, 1884. Washington, D. C.

Proceedings of the American Association for the Advancement of Science. Thirty-Second Meeting, held at Minneapolis, Minn., August, 1883.

Fifth Annual Report of the Wells Memorial Association and the Workingmen's Institute. Boston. May, 1884.

Department of the Interior. Bureau of Education. Report of the Director of the American School of Classical Studies at Athens for the Year 1882-83. Washington. 1884.

Twelfth Annual Report of the Board of Health of the City of Boston for the Financial Year 1883-84. Boston: City Printers. 1884.

Annual Announcement of the Medical Department of Niagara University, Buffalo, N. Y. Session of 1884-85.

Circulars of Information of the Bureau of Education. No. 2. 1884. The Teaching, Practice, and Literature of Shorthand. By Julius Ensign Rockwell, Stenographer. Washington. 1884.

Poisoning by Canned Goods. (Reprint from the Medico-Legal Journal.) By John G. Johnson, M. D., of Brooklyn, N. Y.

Poisoning by Cannabis Indica (Two drachms of Herring's English Extract Indian Hemp). By A. B. Cook, A. M., M. D. (Reprint.)

Annual Announcement of Trinity Medical School, Toronto. Session 1884-85.

University of Georgetown. Thirty-Sixth Annual Announcement of the Medical Department. Washington, D. C. Session of 1884-85.

Sixth Annual Announcement of the Central College of Physicians and Surgeons. Indianapolis, Ind. Session of 1884-85.

Association of the Alumni of the Albany Medical College. Medical Department, Union University. Proceedings of the Eleventh Annual Meeting, held March 5, 1884.

Annual Catalogue of the Albany College of Pharmacy. Department of Pharmacy, Union University. For 1883-84. Albany, N. Y.

Catalogue of the Albany Medical College. Medical Department of Union University. Fifty-third Session. 1883-84. Albany, N. Y.

Directions for the Antiseptic Treatment of Wounds as employed at Professor Billroth's Clinic. Arranged for Students and Physicians. By Dr. Victor R. von Hacker. Translated by Frederic W. Taylor, A. B., M. D. Boston: Cupples, Upham, & Co. 1884.

Original Articles.

A CASE OF ACUTE HYDRAMNIOS, WITH REMARKS ON THE PATHOLOGY OF THIS AFFECTION.[1]

BY CHARLES M. GREEN, M. D.

On March 9, 1883, Dr. J. R. Chadwick was consulted by an American woman, twenty-nine years of age, whose history was briefly as follows: She had married at the age of nineteen and, in her ten years of married life, had borne five children in rapid succession, namely, in 1875, 1876, 1878, 1879, and 1881. The children were all girls and weighed at birth from eight to ten and one fourth pounds: the labors were all natural. The mother suckled her last baby once a day for four months, when the catamenia appeared and recurred regularly until October 27, 1882, at which date her last period ended. A month later she began to have nausea and vomiting, which symptoms continued with considerable severity until early in March, 1883, since which time she had rarely vomited but once a day. About the middle of February she thought she felt fœtal movements and she had several fainting spells. Believing herself at this time about four months pregnant she thought she was larger than she ought to be: two weeks later, that is about March 1st, the abdomen began to grow rapidly larger in size, and thinking something must be wrong with her the woman sought advice. She was below the medium height and of slender form. The abdomen was symmetrically enlarged to the usual size at the end of the eighth calendar month of pregnancy: the parietes were tense, and the superficial veins well marked. There was tympanitic resonance in the loins and over the epigastrium, elsewhere the abdominal percussion note was flat. Palpation revealed a well-marked fluctuation wave in all directions, stopping short however of the tympanitic region, and showing, as Dr. Chadwick subsequently pointed out to the writer, that the intestines were not floating in the fluid; in other words, that it was not a case of ascites. On vaginal examination the introitus was seen to be of deep violet hue: the cervix was soft, long, and funnel-shaped. No fœtal parts were felt by vagina; but by abdominal palpation Dr. Chadwick felt fœtal parts so remote from each other as to warrant in his mind a surmise of twin pregnancy. No fœtal heart sounds were heard; but the uterine souffle was plainly audible.

On March 12th the case was seen by Drs. W. L. Richardson and C. M. Green in consultation with Dr. Chadwick. The tumor had increased in size, and the patient was suffering from distention and pain in the right side and back. The twenty-four hours' urine amounted to only fifteen ounces, its color was high, specific gravity 1.030, and there was a trace of albumen. Ballottement revealed the presence of a small fœtus. The consultants agreed with Dr. Chadwick in the diagnosis of acute hydramnios, and the patient was placed by him under the care of the writer.

On March 13th the circumference of the abdomen, measured on a level with the umbilicus, was 36.5 inches. Inunction of the abdominal wall with oil and the application of a swathe were advised; and tinct. digitalis and tinct. ferri chloridi were ordered for both their tonic and diuretic effects. Sedatives were also employed. Six days later the abdominal circumference, measured as before, was 39.0 inches, an increase of 2.5 inches; and the distance from the ensiform cartilage to the pubes was 16.5 inches.

On March 21st the patient was found in great distress: she could assume no position in which she was comfortable, she had had no refreshing sleep for several days, narcotics seeming only to deaden her sensibilities. She could take no solid food, felt worn out, and expressed herself as feeling as if she would burst. The twenty-four hours' urine during the past eight days had varied from ten to twenty ounces, the daily average being less than a pint. I determined to induce labor, and at 10.30 P. M. of the same day, with the kind assistance of Drs. Chadwick and J. W. Farlow, I proceeded with the operation. At this time the abdominal girth had not increased above 39.0 inches; but the distance from the ensiform cartilage to the pubes had increased from 16.5 to 18.0 inches: the pulse was 96; the temperature, 98.3° F. The cervix was soft and patulous, the os internum admitting two fingers. A new, English gum-elastic catheter, with its stylet sharply bent about an inch from the tip, I passed between the uterus and membranes a distance of six or seven inches and then, turning the catheter quickly, ruptured the membranes high up. Withdrawing the stylet I thus drew off through the catheter six quarts of liquor amnii, and the uterus contracted down to about two inches above the umbilicus. There was no shock, but a feeling of great relief: the pulse fell to 88. There were active fœtal movements. I then withdrew the catheter, pinned a binder firmly around the body from the breasts to the fundus uteri, and waited. In three quarters of an hour uterine contractions set in and continued feebly during the night: the patient was comfortable, however, and slept between the pains: there was a constant, slight dribbling of the amniotic fluid. During the following day there was a cessation of pains, and the patient was comfortable, taking a proper amount of nourishment and sleep: there was, however, retention of urine which necessitated the use of the catheter.

At 2 o'clock A. M., March 23d, pains began again with somewhat increased vigor, and at 6.15 A. M. the os was dilated and expulsive pains began. A fœtus presenting the head, O. R. P., quickly descended into the pelvis, the occiput rotated forward, and the child was born still in fifty minutes from the beginning of the stage. A second fœtus now appeared at the brim presenting O. R. A.; but in the temporary cessation of pains the head disappeared, and a shoulder entered the pelvis. I did not rectify the malposition, but waited to see what would happen. Strong pains very soon began, and in thirty minutes from the birth of the first fœtus the second was born by spontaneous evolution, *corpore conduplicato*. The single placenta was expressed ten minutes after and was followed by a very moderate hæmorrhage, which however was promptly controlled by ergot. The patient suffered no discomfort during the puerperium except from the breasts, which were hard and tender during three days, but which subsided without treatment. On the second day the temperature reached 101.2° F., but declined the following day and was not above normal after the fourth day. Carbolized vaginal douches were used for the sake of cleanliness, and small doses of ergot and opium were employed to promote involution of the uterus. On the tenth day I measured the abdomen and found the circumference at the level of the umbil-

[1] Read before the Obstetrical Society of Boston, February 9, 1884.

icus to be 27.5 inches, and the distance from ensiform cartilage to pubes 12 inches: there had been an increase, therefore, from the dropsical distention, of 11.5 inches in the girth and of 6 inches in the distance from the xiphoid cartilage to the pubes, in a woman much below the medium size.

The chief dangers to be apprehended in cases of this nature are

1. Shock, from the sudden discharge of a large amount of fluid and consequent disturbance of the circulation;

2. Hæmorrhage, from the inefficient post partum contraction of a uterus whose muscular tonicity has been much impaired by undue distention.

To avert the danger of shock the membranes were ruptured high up in the manner described; and as, fortunately, the fluid did not escape around the catheter but only through it, I was able with my finger on the end of the catheter to control the escape of the fluid while the pulse was carefully watched. To avoid the danger of hæmorrhage I purposely withdrew only a portion of the superfluous fluid and left the remainder to trickle away slowly: this gave time for the patient to have needed food and rest, and for the uterus to regain in a measure its muscular tone before it should be called upon to expel its contents. The uterus was also carefully supported post partum, and with the use of ergot firm contraction was maintained.

In accordance with the rule in twins from one ovum the fœtuses were of the same sex; namely, both were boys[1]: they weighed one pound and one pound two ounces respectively. One fœtus was club-footed, the other bore no outward mark of abnormality. The placenta was single and weighed one pound one ounce: macroscopically it was of normal appearance. There was one chorion, and there had doubtless been originally two amnions; but the septum had partly atrophied, and as usual in such cases the remaining septum was of falciform shape. A specimen of the amniotic fluid was submitted to Dr. Charles Harrington for chemical analysis; he reported, however, that it contained nothing abnormal. The placenta, membranes and fœtuses were sent to the pathological laboratory of the Harvard Medical School for examination: most unfortunately the fœtuses were lost, and with them the possible opportunity of throwing light on the pathology of this obscure subject. Dr. W. F. Whitney very kindly examined microscopically the placenta and membranes; but there were no pathological appearances.

The pathology of hydramnios has long engaged the attention of obstetricians and has been the subject of much critical and polemic writing. Prof. Charpentier, in a long and exhaustive treatise,[2] concludes that the pathological anatomy of this affection is far from presenting the least certainty; for, he says, it is not rare to find the lesions to which hydramnios has been thought to be due in cases where there had been no trace of hydramnios. But before attempting to seek the cause of the increased quantity of amniotic fluid constituting the condition known as hydramnios, let us consider for a moment the probable origin of the fluid existing under normal circumstances. This subject is still a matter of controversy; but the opinions of those commanding the greatest weight of authority warrant the present belief that the fluid is a fœtal product and that its sources are

1. The capillaries of the skin.

2. The capillary network described by Jungbluth and known as the vasa propria of the chorionic boundary-membrane of the placenta, lying just beneath the amnion, and anastomosing with the umbilical vessels.

3. The kidneys.

In accordance with this belief, the sources of an abnormal increase of the liquor amnii are to be sought in the fœtus and in the placental circulation: in an excessive kidney- and skin-secretion of the fœtus; and in abnormal transudation from the vasa propria of the chorionic boundary-membrane above mentioned, which may remain patent beyond the time when their gradual obliteration normally begins, namely, after the first half of pregnancy. In short the cause is to be sought in mechanical disturbances of the fœtal circulation, especially of the circulation of the umbilical vessels with which the vasa propria anastomose.[3]

A maternal influence in the production of the superfluous amniotic fluid is not, perhaps, to be completely excluded. Spiegelberg pointed out that from the numerous vessels of the decidua vera, after the union of this membrane with the decidua reflexa, a transudation might well take place into the amniotic cavity. Carl Braun does not accept this view, but believes that such transudations collect either between the uterus and the chorion and give rise to the so-called hydrorrhœa gravidarum, or, very rarely, between the amnion and the chorion simulating but not constituting a true hydramnios.[4] Braun therefore attributes the origin of the superfluous fluid solely to the mechanical disturbances of circulation above alluded to.[5]

Some recent observations of Otto Küstner of Jena form an interesting and suggestive contribution to the literature of this subject, even if they do not afford any positive knowledge. In 1876 Küstner published[6] an account of the autopsy in a case of twins associated with a high degree of amniotic dropsy, and deduced from the post mortem appearances the probable origin of the superfluous fluid. The smaller fœtus bore only the signs of death from suffocation: the larger, however, revealed

a. Hypertrophy of the heart, of both ventricles equally;

b. Cirrhosis of the liver, which was also smaller than normal;

c. Ascites to 150 ccm. (℥v circa).

The examination was incomplete from the fact that the placenta and membranes were not seen by Küstner: in fact it was not known whether or not the diseased fœtus had lain in the hydramniotic sac; but from such facts as he had Küstner explained the occurrence of hydramnios as follows:—

The cirrhosis of the liver, which was probably the primary factor, resulted in compression of the branches of the hepatic veins and of the portal vein. As the umbilical vein opens by one of its branches into the portal vein (the other branch constituting the ductus venosus), the portal vein may be said to have two separate places of ramification; namely, an intra-fœtal, in

[1] It is an interesting fact, worthy of notice here, that in the great majority of cases of hydramnios the fœtuses are female. In McClintock's thirty-three cases there were only eight boys, and of Spiegelberg's cases the fœtuses were female almost without exception.

[2] Archives de Tocologie, Juin-Octobre 1880.

[3] Spiegelberg, Lehrbuch der Geburtshülfe, 2te Aufl., S. 316.

[4] Carl Braun, Lehrbuch der gesam. Gynaek., S. 79.

[5] Op. cit., S. 604.

[6] Archiv für Gynäkologie, Band x., S. 134.

the abdomen of the fœtus, and an extra-fœtal, in the placenta. Compression of the portal vein in the liver would cause increased blood tension in both the intra-fœtal and extra-fœtal distribution of this vein. This increased tension could be compensated for by an increased heart action: if the tension increase slowly, the heart hypertrophies gradually and accommodates itself to the increased demand upon it. But when finally the hypertrophy no longer suffices to compensate for the increased venous tension, transudations naturally result. These transudations take place from the intra-fœtal distribution as ascites; from the extra-fœtal, as hydramnios.

In 1880 Küstner had a case of acute hydramnios which presented striking analogies to the case above mentioned, and he has published[1] the case in full with a synopsis of several cases observed by others. In this second case premature labor with twins took place in the sixth month. The fœtuses were both female and lay in separate amniotic sacs: the first sac, in which lay the larger fœtus, contained by estimate thirty pounds of fluid; the second, which did not rupture until after the birth of the first fœtus, contained but little fluid. The second fœtus presented no abnormality: the first and larger fœtus, which lay in the dropsical amnion, showed the following post-mortem appearances: —

Great enlargement of the liver (apparent by abdominal palpation), its vessels uniformly enlarged, the perivascular spaces enlarged and partly filled with blood corpuscles, the connective tissue around the vessels not increased. Ascites to the amount of 30 to 40 ccm. Effusion in both pleural cavities. Hypertrophy of both ventricles of the heart. A number of circumscribed enlargements of both umbilical arteries, the umbilical vein presenting no changes. The single placenta weighed 410 grams (14.5 ounces), and its cotyledons were soft and œdematous. The cord belonging in the dropsical amnion had a central insertion and was œdematous; the other cord had a velamental insertion and was slender: both placenta and membranes were fattily degenerated to a great degree. The fluid from the dropsical membrane, in addition to the usual constituents, contained 0.07 per cent. of urea, which is more than double that which Fehling considers the normal amount.

Comparison of Küstner's two cases reveals certain striking similarities. In both cases the fœtuses were of like sex, but of different degrees of development; in both, the smaller fœtus was healthy, while the larger showed marked pathological changes affecting chiefly the liver and heart. In both cases the heart was hypertrophic, in the earlier case corresponding in size to that of a child four months old. In both cases there was ascites. The changes in the liver, however, were different: in the earlier case there was well-marked cirrhosis, and the liver was small, pale, and anæmic; in the later case the liver was enlarged and presented the appearances above stated. Küstner considered, however, that both livers were examples of the same process — interstitial hepatitis — the former case being in the last stage, and the latter case in the first. From the high per cent. of urea in the liquor amnii of the second case Küstner concludes that an abnormally large amount of urine was voided by the fœtus, owing to the increased action of the hypertrophied heart.

In addition to his own cases Küstner has collected four others of well-marked dropsy of one amnion in twins from one ovum; that is, where the placenta is single, with one chorion and two amnions. In all these cases the heart was hypertrophied and in one case dilated. In three of the cases the liver was small and cirrhotic; in two, in what Küstner considered the hypertrophic stage of interstitial hepatitis; in the remaining case the condition of the liver was not noted.

These cases, while too few in number to prove anything, yet serve to illustrate in what way disturbances of the fœtal circulation, whether originating in the heart or in the liver, may lead to a dropsy of the amnion. The one condition necessary, it seems to me, to a serous transudation is a venous stasis: whether the prime disturbance is in the heart, in the liver or elsewhere, it matters not, provided the blood tension becomes so great as to cause capillary transudations. It seems to me not irrational to suppose that excessive convolution of a long fœtal cord might so retard the blood stream with undue friction as to lead to circulatory disturbances. Again, an active congestion of the fœtal kidneys, with coincidently increased arterial tension produced by a hypertrophied heart, would lead to an increased urinary secretion which, evacuated into the amnion, would increase unduly the amount of the liquor amnii: such seems to have been a factor in Küstner's second case.

In cases of twins from one ovum the placental vascular distribution is such that a considerable number of cotyledons are common to the circulation of both fœtuses, and it is possible that one fœtus may thereby gradually appropriate an undue portion of his fellow's blood: this would explain why in one-ovum twins one is usually larger than the other. It may be, too, that consequent upon the increased proportion of blood circulatory disturbances may ensue in the larger fœtus, to compensate for which the heart may hypertrophy and thus lead the way to serous transudation. Certain it is that hydramnios occurs frequently in connection with twin pregnancy; but while in some cases of record the larger fœtus has been found to occupy the hydramniotic sac, the cases are too few to warrant the assertion that it is always so.

It will be seen, therefore, that the pathology of this affection is still involved in uncertainty; but recent observations have done much to illuminate the subject, and in due time doubtless the causes of hydramnios will be as clearly demonstrated as those of other pathological conditions at one time equally obscure.

[1] Archiv für Gynäk., Bd. xxi., Heft 1.

A CASE OF MONOMANIA.[2]

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So much has been included under the term monomania, and it has been to such an extent made synonymous with other and varying terms, that it is little wonder that the propriety of its existence as a separate form of insanity should have been disputed. Still, among the great insane multitude coming before us for review or treatment, every now and then a case occurs which seems in certain fairly well-defined respects to be entitled to consideration as a lunatic in a far different sense from the victim of acute or chronic mania or melancholia. Among the Germans such a distinc-

[2] Read before the Boston Medico-Psychological Society, March 6, 1884.

tion has long existed, and the French, since the time of Esquirol and Pinel, have described cases to which they have applied the term monomanie. By British writers, the propriety of the term has been questioned, but most of them have been forced to employ it in their descriptions of certain cases, either with or without some degree of modification. The present case may serve to illustrate the type of disease to which the term is most commonly applied.

C. V., aged forty-six, married, is the son of a musician and school-teacher, and was born in Germany. So far as can be learned the father was a man of respectable ability, largely self-educated, and all his life dependent upon his earnings for his support. In Germany he held the position of government school-teacher, but relinquished it to come to this country when the patient was seven years of age. He (the father) is said to have been somewhat eccentric. He died at the age of seventy-four, from some acute cerebral disorder. The mother was of average ability and without any known mental peculiarity. Patient has one brother and one sister, both of whom are a little peculiar, being of an emotional and excitable temperament, but neither betray any actual insanity. The brother is quite an accomplished musician, and beside playing in the orchestra of a leading theatre holds a position of trust in a prominent dry goods house of a large city. He is very fond of discussing his brother's case from a quasi-scientific stand-point. On one occasion he brought to me a sackful of popular works upon mental philosophy from which he proposed to read a description of the patient's case, and to point out the proper treatment to be pursued. Later he had an interview with the patient, and in attempting to read the same description to him so enraged him that a fight between them for a time seemed imminent. The sister is devoted to the patient, thinks he is not insane, and tries whenever she visits the asylum to convince the officers that he ought to be liberated. Beyond this persistence and a somewhat emotional manner her conduct exhibits nothing demanding special comment.

As a child the patient was somewhat delicate, but appears to have had no special disease, certainly nothing resembling any cerebral affection. He manifested a good degree of intelligence, learned readily, and early displayed a taste for music and drawing, in both of which he received careful training by his father, becoming a good performer upon the violoncello and a fairly good architectural draughtsman. He was temperate in his habits, and not addicted to sexual excesses of any kind so far as can be learned. His sister declares that as a young man he had a most gentle and affectionate disposition, but displayed great sensitiveness to opposition or criticism, and cherished a fanciful sense of honor which led him to explosions of temper whenever anything he considered unfair treatment of himself or others came to his knowledge, or whenever anything which he thought vulgar or indelicate was done in his presence. His education having been wholly undertaken by his father he lived almost wholly at home, where he had no trouble, until he was twenty years of age. From this time, or when he began to support himself, his mental peculiarities began to be more prominent, and he began to display an intolerance of discipline and restraint that brought him into constant collision with his employers. Failure to obtain as much pay for his work as he demanded led him to think his employers unjust, and finally to believe that all who tried to support themselves were prevented from succeeding as they ought by the tyranny and meanness of the people employing them.

For the past ten years his frequent quarrels with his employers, and his refusal often to work for men who offered any criticism of his performance, have prevented his being steadily occupied either as a musician or draughtsman, and he has tried various other occupations to eke out his earnings. He has been an unsuccessful canvassing agent for a book publisher, getting one subscriber who refused to pay for the book when delivered; tried canvassing for a newspaper without getting any subscribers at all; tried collecting bills for a physician on a commission of ten per cent., collecting twenty dollars the first day, and not a cent for the next three weeks. These quarrels and failures never induced him to yield any of his self-constituted rights in an effort to live without friction and discomfort, but rather strengthened his belief that the world was going wrong.

He seems to have manifested no definite delusion until 1877, when he was arrested upon a groundless charge of felonious assault and locked up for a night in the police station. The fact of his arrest and of the charge made against him was published in the daily papers and never retracted, although no case was made against him. From that time he has regarded the police as a vile body of men, encouraged and paid by the rich to browbeat the poor, and especially himself. On a later occasion he became involved in a quarrel with the proprietor of a theatre in the orchestra of which he was playing, which resulted in his forcible ejection from the building, during which process his instrument was broken. He at once wrote to the chief of police asking for the arrest of the manager for assault and battery, and urging that he be sued for breaking his instrument. The police paying no attention to his letter, he wrote them a postal card accusing them of venality and of hostility to him. At various other times the police have requested him to move when he has been standing upon the street, and in every instance he has regarded their action as a personal insult and an inexcusable outrage. In consequence of these acts of the police he wrote certain postal cards to various newspaper editors, expressing his opinion, as he termed it, and protesting against the system of injustice to which he believed himself subjected. He had also from time to time written letters upon the labor question, which he declares were temperate arguments upon the subject and intended only to draw attention to the deplorable condition of the working classes.

He appears to have kept himself within legal limits until 1882, when he began a wholesale writing of abusive and threatening letters to various people of prominence. Complaint having been made he was arrested in June, 1882, declared insane, and committed to the Taunton Lunatic Hospital. When arrested he was in his own house, and made a stubborn resistance, shooting at the officer who arrested him. He explained the shooting by saying that he did it in self-defense, believing the police to be about to kill him. He remained at Taunton until August, 1882, when upon his written promise to abstain from writing letters, and to conduct himself properly in other respects, he was released.

Upon assuming the care of himself and family he seems to have found the strain too great for his self

control, and he very soon began again to send abusive postals, though he says he was careful to avoid any vulgarity of expression this time, as he thought he would thus escape arrest. Finally, he became so great a nuisance that he was arrested and committed, August 23, 1883, to the Danvers Lunatic Hospital upon the following medical certificate: —

"For many years he has been peculiar, and at times has threatened violence. He was committed to the Taunton Hospital June 22, 1882. He has been writing many abusive postals to respectable gentlemen, and was arrested by order of the Police Commissioners. Sent to the Boston Lunatic Hospital as an emergency case August 20th." "He is excitable and very suspicious. He believes that the world is all wrong, that there is no chance for the poor, that he is the victim of persecution, and has many enemies, that every one who differs from him is a liar and a villain. He can see no impropriety in the postals he has written, and considers all proceedings against him an outrage. His word and written promise have proved entirely unreliable. All these things have rendered him an annoyance to many whom he thinks have injured him. In our opinion he is liable to be violent at any time, and is a dangerous man, who probably never will recover or be safe to be at liberty."

The notes of the examination made upon admission are as follows: He is of medium height, of rather slender build, is somewhat pale, and appears to be imperfectly nourished. He has a well-developed, symmetrical head, and clear-cut and intelligent features. Hair light brown, partly gray; blue, rather prominent eyes; pupils equal in size, and readily responsive to light and darkness. Facial muscles active, and betray slight tremor while he is speaking. Tongue is protruded without difficulty, is straight, and shows a moderate degree of fibrillary tremor. There is no apparent abnormality of the thoracic organs, except that the heart sounds are somewhat ill-defined and the cardiac action irregular. Pulse is 80. Has inguinal hernia of the left side, which is supported by a truss. Hernia has existed for several years, developed slowly, and is not due to traumatism. Genital organs apparently normal.

There is considerable tremor of the limbs during voluntary movements, but no more than is often seen in persons of a sensitive organization undergoing examination for the first time. No local paralysis of motion or sensation can be found. The patellar reflex is markedly exaggerated.

He is quiet and gentlemanly in manner, but seems to be laboring under excitement, which he subdues only with great effort, as he fidgets uneasily when questioned, and is querulous and abrupt in certain of his replies. He is disposed to be noncommittal, but admits that he has been writing postals which have brought him into trouble. Says he sees no impropriety in them, as they were mostly written to people whom he did not know, even by sight, and whom he had no intention to injure.

Admits that those written last year were abusive and vulgar, but insists that he was careful this year to avoid any indecent expressions. Says he did not expect any personal benefit from writing, but thought he might as well express his opinion to people disposed to neglect or trample upon the rights of the poor. Thinks society is imperfectly organized, because people who have money keep it all to themselves, and do not give the laboring classes any chance to get ahead. Believes the rich ought to furnish proper employment at proper wages to the poor. Does not understand that all have the same right to get money, and insists that poverty and hardship come only from the cruelty of the rich. Asked if he expects to revolutionize the existing state of affairs, he says, "No, I only wanted to express my opinion." Said the police and rich people were all against him, and, intimating that the examiner was also one of his enemies, he declined to talk further. Speaks with a slight foreign accent, but with unimpaired articulation. Within a week after admission a paroxysm of excitement occurred. He had asked for his discharge, and had been told that as he had been duly committed to the hospital as an insane person it would be necessary for him to remain long enough under observation to satisfy the superintendent that he was not insane before he would feel justified in discharging him. At this he became furious, began to gesticulate wildly, assumed an intensely dramatic attitude and expression, and shouted, "You have no right to say I am insane; you know I am not insane; in the name of God I say I am not insane. In the name of God, I say my liberty has been unjustly taken from me; in the name of God, I say you are a liar if you pronounce me insane; in the name of God, I demand justice and liberty." In this way he talked, or shouted rather, for several minutes, pacing excitedly about his room, and presenting the insane manner in a degree not to be described in words. Half an hour later he was quiet, and rational, but justified his previous conduct by saying that no man had ever been as unjustly treated as himself, and that it was the only way in which he could adequately call attention to his wrongs. For several weeks he refused to go out of doors, but when two or three strong attendants came to take him out he went without resistance, protesting, however, that it was an outrage and an injustice to make him submit to the farce of going out for a walk while he was in reality a prisoner in a lunatic asylum. About a month after admission he made a bungling effort to escape by removing his window. Since he has been in the hospital he has had frequent outbreaks, almost exactly like the one described. They are always of short duration, and although at times his manner has been threatening in the extreme, he has not attempted any actual violence. He prefers to be alone as much as possible, passing much of his time in his own room reading papers furnished by his relatives. He has refused books that have been given him, regarding the offer as an insult, and declaring that he would not read them while deprived of his liberty. He refuses to do any work or to engage in any game or amusement, declaring that he has no taste for such things while held as a prisoner. He has been repeatedly requested to join the hospital orchestra, but he always becomes angry, and declares that is a "put-up job," as he calls it, to get music for nothing. Drawing materials have been offered him, but he always has refused to use them, saying, "I shall get nothing for my work, and I can never be interested or amused while deprived of my liberty." He regards the hospital officers as his enemies because they do not liberate him, and declares, "in the name of God," that no earthly consideration would induce him, were he in their position, to detain a sane man like himself for a single hour. He becomes very cautious in manner when questioned about himself, saying, "I prefer to say as little as possible

about my past life, for my position is a peculiar one. I am shut up here as a lunatic by my enemies, and I must be careful about what I say, as you are one of those who are against me, and will make use of my statements to injure me." Upon general topics he converses with ease and considerable ability. His perception is good, his memory accurate and retentive, and his conclusions are generally just and fair. Except for his total inability to see the impropriety and absurdity of his past conduct his intellect seems to be very little impaired. He admits that he was foolish to write so many letters, but only because of the bad result. He is still an assiduous letter writer, but writes only to his wife and sister, begging them to come and release him. Frequently writes two or three letters in the same day, and all are worded almost exactly alike. They present a characteristic appearance, nearly every other word being heavily underscored, and the phrase " in the name of God " is often repeated.

He denies that he is in any sense inspired, and denies that he has ever experienced any hallucinations of sight or hearing. He reasons very clearly upon the subject of hallucinations and inspiration, and conclusively shows that his delusions spring from his actual experiences. Says, " I am not inspired. I have never had in a dream or in any way any inspiration or ever heard any voice urging me to do what I have done. I only felt that because of these acts of injustice done me by the police and others I had a perfect right to express my opinion in the way I did, and what I said was my own opinion, and was not an inspiration in any way whatever." He does not entertain expansive delusions as to his social or professional capabilities, but declares that he is a good musician and an average draughtsman, and that if given steady employment and justly treated and paid he would be perfectly satisfied, and would trouble no man. Since he came to the hospital he has had a fair appetite, has preserved a good degree of nutrition, and has slept very well. He has made no complaint of bodily indisposition, and has taken no medicine.

This case is interesting chiefly on account of its clearly defined character and its medico-legal possibilities. The intellectual deterioration is so slight and the patient's capacity to explain his delusions is so great, and so similar are many of these delusions to the views of Dennis Kearney, Herr Most, Henry George, and other socialist agitators, that he might very easily seem no more insane to a miscellaneous body of the laity, such as compose the ordinary jury, than would the men just mentioned. To be sure they have only spoken to masses of men about other masses of men, and they have not so far lost self-control as to precipitate quarrels with individuals in attempting personal applications of their own avowed principles, but their language, notably that of Kearney, has been as violent and outrageous as the worst fulminations of this patient at his most excited moments. The loss of self-control, one of the strongest evidences of insanity in this case, while all powerful in determining the opinion of the medical expert, is much too delicate a question for decision by a jury, and would very likely be overlooked in the present case were the patient allowed to testify in his own behalf.

The question of responsibility for grave crimes might in this case be a delicate one to settle. Certainly with the present legal definition or with Hammond's definition of criminal responsibility it would be difficult to say that this man does not come within the limits of responsibility understanding, as he does, the difference between right and wrong in the ordinary ethical sense.

Briefly summarized the history shows that this man probably inherited an unstable mental organization, that his early life was passed under very bad auspices, his education, conducted solely by his father, a man of peculiar and eccentric habits, doubtless serving to intensify rather than to restrain any morbid mental peculiarities shown in youth, and his seclusion from that society in which he was to live having, to a certain extent, unfitted him for living in it. The cultivation of his artistic instincts at the expense of a careful training in the practical affairs of life placed him in a position to compete at a disadvantage with others in the struggle for existence, and the dissipation of his energies in undertaking two professions further increased this disadvantage. His failure to succeed as well as he had hoped forced him into a morbid state of mind, out of which, under the exciting influence of an unfortunate chain of circumstances, vague ideas of ill treatment emerged as systematized delusions of persecution. As these delusions became sharply defined they so far dominated his mental processes as to destroy his self-control and lead him to the perpetration of acts of lawlessness which may be taken as forerunners of more serious manifestations, as the history of similar cases, almost without exception, has been one of progressive mental failure. Should hallucinations develop it seems highly probable that this patient, with his present mental attitude, might, under their influence, be goaded to the commission of the worst possible crimes.

The case closely resembles the description of Primäre Verrücktheit given in the *Psychiatrisches Centralblatt* for December, 1877,[1] but differs from it notably in the absence of hallucinations of the special senses, of anything approaching a belief in divine inspiration, and in its freedom from expansive delusions of a social or political character. It has been described as a case of simple monomania, as it seems to fall very clearly within the limits of Spitzka's definition of that disease, namely, "a chronic form of insanity based on an inherited or acquired neuro-degenerative taint, and manifesting itself in anomalies of the conceptional sphere, which, while they do not destructively involve the entire mental mechanism, dominate it."

A CASE OF PLACENTA PRÆVIA, MOTHER AND CHILD LIVING.[2]

BY EDWARD JACOB FORSTER, M. D.

THE case which I present to-night seems of sufficient interest to report in full, as the method employed to terminate the pregnancy, manual dilatation of the os, is one which is not as yet recognized by the text-books, although well known to members of this Society, as it was first suggested by one of our number, Dr. A. D. Sinclair, who prior to 1865 successfully delivered a case of placenta prævia in this way. Since then he has reported nearly a dozen cases treated in the same manner and with the same result. Dr. Richardson, in an article in vol. 5 of the Gynecological Transactions, has strongly advocated this method of inducing labor when

[1] Journal Mental Science for April, 1879.

[2] Read before the Obstetrical Society of Boston, February 9, 1884.

from any cause it may be necessary during the later months of pregnancy. In this vicinity, at least, it is, I believe, the recognized practice superseding entirely the tedious methods formerly employed, as electricity, the hot and cold douche, the introduction of foreign bodies with the view of separating the membranes, or the dilators of Barnes.

When the placenta is situated over the os there can be no absolute safety for the mother until delivery is accomplished: a hæmorrhage of such an extent as to rapidly prove fatal may take place at any moment, when once the placenta from any cause becomes separated from its insertion. In such cases as this this method seems particularly applicable; for while we have the means of rapidly terminating the pregnancy, the presence of the hand in the os can to a great extent control the flooding.

On the 8th of January, 1883, I was called to Mrs. R., forty-eight years old, born in Ireland, of previous good health. She had had ten living children without more than the usual amount of trouble, and one miscarriage eighteen or nineteen years ago. Her last child was born in November, 1875. While carrying her sixth child she menstruated throughout her pregnancy. This was probably a partial placenta prævia. At my visit late in the afternoon I found her in bed, and she gave me the following history of the present pregnancy: Motion was first noticed about 6th August, 1882. Her general health had been good with the exception of heart burn, for which she had taken magnesia and other remedies without relief. Her bowels were regular. About five P. M. Thursday, 28th December, without having any pains she passed a few clots: again on Sunday, the 31st, there was slight flowing without pain. From then one week passed and she soiled only two cloths until the midnight before my visit, when she was awakened from sleep and found blood in the bed: the flowing lasted about half an hour, then slight pain in twenty minutes and more blood, little if any after and no pain except such as was caused by the motion of the child. Examination per vaginam settled the diagnosis.

Believing, as I have before stated, that while pregnancy lasted there was no safety for the mother, and that the serious character of the case needed prompt interference and careful management, I asked and obtained the services of Dr. W. L. Richardson in consultation. It was decided at once to proceed to induce labor. After stating to the patient the chances of leaving the case to nature consent was readily obtained. The patient was etherized, manual dilatation performed, and at a quarter of two A. M. a living male child was delivered by version, the operation not lasting over three quarters of an hour. There was comparatively but slight loss of blood. Dr. Richardson, who performed the version, found some difficulty in bringing down the foot and unavoidably fractured the femur: as he is present, the explanation of this accident I leave to him.

Dr. Richardson had gone home, Dr. Blood who had taken charge of the anæsthesia was preparing to do the same, when the nurse hastily summoned us again to the bedside, where we found the patient in a state of collapse. The uterus was quickly seized and little hæmorrhage ensued: brandy, quinine, and laudanum were freely used and the circulation was soon restored. While these remedies were given by the mouth three subcutaneous injections in the thigh were given, a drachm each of brandy and fl. ext. of ergot, and a drachm of a solution of quinine containing five grains. The condition of collapse lasted long enough for the husband to become thoroughly alarmed and again summon Dr. Richardson. "January 16th the sore spot on the left leg made by injecting brandy discharged pus freely. January 17th. Quinine-sore discharged but little." I regret to say that the foregoing notes by the nurse are the only ones which I have of the appearance of the ulcers caused by the subcutaneous injections, having lost those which I had carefully prepared as well as some sketches. Suffice it to say, each left a deep circular ulcer about an inch in width and more than that in depth, which were several weeks in healing: this, as regards ergot, is contrary to the teaching of Mundé, who says in his Minor Surgical Gynecology he never knew any trouble to follow its use. At the point where the injection of quinine was given an eschar was formed which remained quiescent for about three weeks, when falling off disclosed one of the ulcers above mentioned. The quinine used was the sulphate. Edes recommends the use of hydrobromate or hydrochlorate for hypodermic injection as being less irritating: this we did not then know, or we might have had one less ulcer to annoy the patient.

An interesting point is the shock or collapse which followed the delivery and which perhaps might have been avoided if the rule, which I remember Dr. Gordon Buck of New York advocated some years ago in the *Boston Medical and Surgical Journal*, of giving an alcoholic stimulant always before etherization had been followed. It has been suggested to me that the condition of the patient which alarmed us was not shock, but was possibly due to the entrance of air into the circulation.

I am happy to record the ultimate recovery of the mother. Last week I heard the child was running about.

RECENT PROGRESS IN SURGERY.

BY A. T. CABOT, M. D.

LAPAROTOMY IN OBSTRUCTION OF THE INTESTINE.

Schramm[1] reports three cases of laparotomy performed by Miculicz, and has collected 190 cases in which this operation was done for occlusion of the intestine; 64.2 per cent. of these cases were fatal, but investigation shows that the rate of mortality during the last ten years has been 58 per cent., having been 73 per cent. previous to that time. This shows an improvement of 15 per cent. in consequence of better technique and antiseptic precautions.

From a study of these cases Schramm draws the following conclusions: —

As the tendency is to death from collapse it is manifestly wise to operate early, before the patient is weakened, and before peritonitis has developed. This is especially true in cases of invagination in children, when a favorable result can only be expected if the operation is done within the first forty-eight hours, as after this time the intestinal surfaces are almost hopelessly glued together. In adults, on the other hand, if the symptoms of strangulation are not severe it is well to wait until there is evidence of failure of strength.

The incision is best made in the median line, especially when the seat of the obstruction is not known.

[1] Arch. f. klin. Chir., Band xxx., Heft 4.

If an intussusception is difficult to pull apart, the lower end of the inclosed portion may be kneaded and pressed back with one hand while with the other the entering portion of intestine is gently drawn out. In a difficult case the invaginated portion may be firmly compressed to reduce its size (as recommended by Hutchinson) before any traction is applied.

In extensive irreducible invaginations of the large intestine, and when gangrene has already commenced, it is advisable to open the bowel above the obstruction, to establish an artificial anus, and then to wait for the spontaneous separation of the gangrenous part.

In case of a short irreducible intussusception of the large intestine, or of an irreducible invagination of the small intestine, Schramm would advise resection of the affected portion with union of the ends by suture. This latter treatment would naturally be proper in case of carcinoma.

When the source of obstruction cannot be discovered by investigation of the localities where the trouble is most commonly situated, the search should be conducted in the following manner: A presenting coil of intestine should be seized by the assistant and held fast in the wound while the operator, starting from this point, draws the intestine out bit by bit, always proceeding along the gut in the same direction and returning the coil last examined as the next one is drawn out. If from the appearance of the intestine (redness and amount of distention) it becomes manifest that he is receding from the point of obstruction, he should return to the original coil which the assistant still holds and start from it in the opposite direction. If a band is reached, behind which the intestine is strangulated it should be tied close to its insertions and cut away completely.

In case a twist or knot is found which cannot be unloosed, several methods have been adopted to re-establish the patency of the canal. Reali cut the intestine in two and reunited the ends after disentangling the knot. This patient recovered. Also a union may be effected between the intestine above and below the knot after the manner described by Wölfler in his operation of gastro-enterotomy. If the twist is already gangrenous it may be cut out and the ends either joined together or brought out through the wound.

In regard to the operation of enterotomy for obstruction, without an attempt to find the cause of the obstruction, a procedure strongly recommended by Maisonneuve, Schramm points out the danger of making the opening too high in the intestinal tract or of opening a coil below the obstruction, and urges further against it that the patient is left to the danger of gangrene of the strangulated intestine.

In the *American Journal of the Medical Sciences* for July, 1884, Dr. R. H. Fitz publishes a paper upon Persistent Omphalo-Mesenteric Remains, in which he calls attention to the important part that the diverticula and fibrous cords formed by a persistence of the omphalo-mesenteric duct or vessels may play in causing intestinal strangulation and obstruction. He draws the following conclusions of practical surgical importance: —

"(1.) Bands and cords as a cause of acute intestinal obstruction are second in importance to intussusception alone.

"(2.) Their seat, structure, and relation are such as frequently admit their origin from obliterated or patent omphalo mesenteric vessels, either alone or in connection with Meckel's diverticulum, and oppose their origin from peritonitis.

"(3.) Recorded cases of intestinal strangulation from Meckel's diverticulum, in most instances at least, belong in the above series.

"(4.) In the region where these congenital causes are most frequently met with an occasional cause of intestinal strangulation, namely, the vermiform appendage, is also found.

"(5.) It would seem, therefore, that in the operation of abdominal section for the relief of acute intestinal obstruction not due to intussusception, and in the absence of local symptoms calling for the preferable exploration of other parts of the abdominal cavity, the lower right quadrant should be selected as the seat of the incision. The vicinity of the navel and the lower three feet of the ileum should then receive the earliest attention. If a band is discovered, it is most likely to be a persistent vitelline duct, that is, Meckel's diverticulum, or an omphalo-mesenteric vessel either patent or obliterated, or both these structures in continuity. The section of the band may thus necessitate opening the intestinal canal or a blood-vessel of large size. Each of these alternatives is to be guarded against, and the removal of the entire band is to be sought for, lest subsequent adherence prove a fresh source of strangulation."

In connection with Dr. Fitz's article the following case of intestinal obstruction recently reported by Mr. Clutton[1] to the Clinical Society of London is of interest: —

The patient, a boy of ten, had had several previous attacks of obstipation, none of which had been of more than two or three days duration, and which had always been relieved by enemata. The attack in question, accompanied by continued vomiting, had lasted four days when Mr. Clutton was called by the attendant, Dr. Purvis. Laparotomy was decided upon.

When the abdomen was opened a collapsed coil of intestine was quickly found, and in bringing it to the surface a tight, ring-like cord could be felt and seen to be the cause of the strangulation. This band was seized by two pairs of forceps and divided, the ends being tied with catgut. The strangulation was now entirely relieved. The cord was found to have started from the top of a diverticulum two inches in length, and to have been attached by its other end to the wall of the same loop of intestine from which the diverticulum started, at a distance of about six inches. A portion of bowel, about three inches in length, between these two points of attachment was the part strangulated, and was of an extremely dark color, with a deep sulcus at each side. The boy made an uninterrupted recovery.

Mr. Clutton regarded this cord as the remains of the vitelline duct, which had remained patent for two inches from the ileum, and had formed a cord for some distance beyond. The free end of this cord he supposed to have become adherent to the intestine at the point where it was found attached. A portion of the gut between had slipped beneath the cord and become strangulated.

NEPHROTOMY BEFORE NEPHRECTOMY.

R. Clement Lucas[2] calls attention to the importance of incising and draining a suppurating kidney before

[1] British Medical Journal, May 17, 1884.
[2] British Medical Journal, March 22, 1884.

performing nephrectomy. He says: "It is not only that drainage relieves at once the patient, and in many instances is alone sufficient for cure, but that it renders a subsequent nephrectomy (when necessary) much less dangerous. Thus a double advantage is obtained. At first the patient is subjected to only a trivial operation, which is certain to give relief, and may effect a cure, and, secondly, should the course of events later indicate the advisability of removing the shrunken kidney, nephrectomy will have a greater chance of success. I showed in my paper [1] that six cases were all successful in which nephrectomy followed drainage, whereas nephrectomy for pyonephrosis with these cases abstracted has a mortality of fifty per cent. It is but reasonable to anticipate some such difference in the results, for, apart from the accidents which may happen in the attempt to remove a large and adherent bag of pus, it is evident that a much greater surface must be exposed to injury in removing a distended kidney than in excising a shrunken one. Further, drainage gives time and opportunity for the patient to gain strength before being submitted to the major operation."

PULMONARY SURGERY.

Krönlein [2] recently removed a nodule of recurrent sarcoma from the surface of the lung. After resecting a portion of the sixth rib, which was involved in the growth, it was found that the portion of the tumor that projected into the chest (about the size of a small fist) was adherent to the lung. This was easily separated with but little hæmorrhage. At this point in the operation the lung collapsed, and the dyspnœa was extreme, so that the administration of chloroform was discontinued. A nodule about the size of a walnut was now discovered in the periphery of the lung. It was drawn up to the opening in the chest wall and excised with the scissors. There was scarcely any bleeding, and what little did occur was checked by bringing the edges of the wound together with catgut sutures. The lung expanded with great rapidity, the wound healed readily, and recovery was complete at the end of three weeks.

The insignificant hæmorrhage from the lung tissue is the most interesting feature of this case.

In a recent editorial in the *Lancet* [3] the tapping of cavities near the apices of the lungs is regarded as a procedure of doubtful utility, but the opening of cavities near the base is thought to be justified in view of the great relief afforded by providing an easy outlet for the putrescent contents, which if they discharged through the bronchi would expose the patient to great risks of secondary lobular inflammation.

Krönlein, in the article quoted above, deprecates all attempts to clear out tuberculous cavities or to remove portions of diseased (tuberculous) lungs, and says that he should regard it as an advance in pulmonary surgery to go back to the advice of Richter, given in 1812, to operate only in case of an abscess carefully diagnosticated and accurately defined.

HYDROCELE. INJECTION OF IODINE.

Dr. Otto Weiss [4] has made some investigations as to the final results of the radical operation for hydrocele as at present practiced in Billroth's clinic. The cases were treated by the injection of a freshly-prepared mixture of equal parts of tincture of iodine and distilled water. From thirty-five to seventy grammes of this mixture were introduced in each case into the sac from which the fluid had been drawn. After this had been retained for five minutes, during which time the scrotum was gently kneaded, it was allowed to escape. Antiseptic precautions were observed throughout.

The pain following this operation was generally severe for from one half an hour to an hour. The patients were kept in bed for four or five days with the scrotum well supported.

Fifty-one cases have been thus operated upon in this clinic since 1876. Of these thirty-eight answered Weiss's circular of inquiry as to the final result, of which thirty-two reported themselves as entirely well, while in six the disease had recurred.

INJURIES OF THE THORACIC DUCT.

Boegehold [5] reports a case in which, during the removal of a malignant tumor of the neck, the thoracic duct was opened. Simple compression controlled the escape of chyle, and the wound did well.

Boegehold succeeded in showing by injection the existence in two cases of collateral trunks by which communication with the veins is maintained when the main duct is compressed or ligated.

CIRCUMRENAL TUMORS.

Sir Spencer Wells [6] reports a case in which he removed two large fibro-lipomatous tumors which lay encapsulated, one around each kidney. They shelled out quite easily for the most part, but the lower third of the left kidney adhered to the tumor surrounding it, and was torn off with it. The bleeding was controlled without great difficulty, and notwithstanding the injury to the kidney the patient, a lady of forty-eight, made a good recovery, and did not suffer from any disturbance of the urinary functions. The tumors weighed sixteen and a half and fourteen and a half pounds.

RETROGRADE DIVULSION OF THE ŒSOPHAGUS.

Professor Loreta,[7] of Bologna, who recently devised the operation of digital divulsion of the pylorus,[8] has within the past year introduced an operation which he calls "retrograde divulsion" for the treatment of a cicatricial stricture near the cardiac end of the œsophagus. A tight stricture in this region is almost always beyond the reach of successful treatment by the mouth.

Loreta's case was as follows: The patient, a man of twenty-four, reduced to an extreme degree by starvation, was operated upon October 24, 1883. Gastrostomy was first performed, and through the opening thus made a divulsor was passed into the stricture, and this was dilated to what seemed a sufficient extent. The wound healed by first intention with no sign of peritonitis. The patient could swallow easily the first day, and was entirely well at the end of a fortnight, although the future use of a bougie will probably be required to keep the passage patent.

— Morean de Tours, the celebrated French alienist, whose aphorism, "Le Genie est une névrose," made the groundwork of his great work on La Psychologie Morbide, is dead at the age of eighty.

[1] Address before British Medical Association, August, 1883.
[2] Berlin. klin. Wochenschrift, 3 März, 1884.
[3] March 8, 1884.
[4] Wien. med. Wochenschrift, 1884, Nos. 1, 2, 3, 4.
[5] Arch. f. klin. Chir., xxix., 3, p. 443.
[6] British Medical Journal, April 19, 1884.
[7] Gaz. Med. Ital. Lomb., November 24, 1883.
[8] See report in this Journal, June 28, 1883.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

FEBRUARY 9, 1884. The President, DR. C. ELLERY STEDMAN, in the chair.

DR. W. L. RICHARDSON exhibited a blank form which he had devised for recording cases of obstetrics in the out-patient department of the Boston Lying-In Hospital.

DR. G. H. BIXBY reported Five Cases of Abdominal Section. (Paper reserved.)

ACUTE HYDRAMNIOS.

DR. C. M. GREEN reported a case of acute hydramnios, with remarks on the pathology of this affection.[1]

DR. J. R. CHADWICK said that the most characteristic feature of this case was the extreme rapidity with which the abdomen enlarged, resembling nothing in his experience except ascites. The patient, though believing herself to be nearly four months pregnant in the middle of February, had observed no increase in girth; between that time and March 9th she had grown to the size of the end of the eighth month of pregnancy. The resemblance to ascites was enhanced by the very distinct wave of fluctuation which was felt throughout the greater part of the abdomen, and by the impossibility of defining by palpation the upper end of the uterus. Ascites was, however, excluded by his finding that the wave of fluctuation was not transmitted to and from the epigastric region, where the resonance was tympanitic, to the other parts of the abdomen, where it was flat. This point in the differential diagnosis between ascites and all encysted abdominal fluids (uterine, ovarian, vesical, etc.), is mentioned by Spencer Wells[2] in the following terms: "When fluid is free in the peritoneal cavity the wave of fluctuation may be felt not only where the sound is dull on percussion, but also beyond the line of dullness, even where resonance may be tympanitic. The intestines float in the fluid, and the fluid may be thrown in waves among them. But when fluid is contained within a cyst, fluctuation cannot be detected beyond the boundaries of the cyst. Hence the outline of the cyst, traceable by dullness on percussion, and the line where fluctuation can be perceived, must be the same."

Dr. Chadwick emphasized this diagnostic sign because it seemed to him to have been generally overlooked by even the most thorough and eminent writers, such as Thomas, Hart and Barbour, Goodell, Tait, and others. He had found it to be more reliable than any other sign.

An ovarian cyst complicating pregnancy was excluded by the sudden rapidity of growth, by the absence of a furrow in the abdomen indicating the line of demarcation of the cyst and the pregnant uterus, by the ubiquitous wave of fluctuation, and by the central position of the cervix uteri in the pelvis.

As to the source of the amniotic fluid, he could add nothing to its solution except to point out, in favor of its being contributed in part, at least, by the fœtal kidneys, that in those cases in which certain drugs administered to the mother have been detected in the amniotic fluid, they have likewise invariably been found in the first urine passed by the child.

[1] See page 121 of this number of the JOURNAL.
[2] Diseases of the Ovaries, page 130.

DR. RICHARDSON believed there would be less danger of entering the placental sinuses if the catheter, previously warmed, were passed without the stylet, and the latter subsequently introduced.

DR. CHADWICK said if the tip of the catheter, with the bent stylet contained, was kept away from the membranes, there would be no danger in his opinion, unless air was actually pumped in.

DR. DRAPER said that if the catheter entered a utero-placental sinus the negative pressure of the uterus would serve to draw in air.

DR. CHADWICK said that to illustrate more fully this unusual complication of pregnancy he would give briefly the notes of a case supplied him by Dr. Helen Morton, with whom he had seen the patient in consultation: —

Mrs. W., aged twenty-eight years, eight years married, had always been hysterical, and at times depressed mentally, but was otherwise in perfect health, as was her husband.

January 14, 1877, was born the first child. July 14, 1878, was born the second child at six and a half months of pregnancy; there was an excess of amniotic fluid; the child was weak, and had only superficial respiration; the umbilical cord continued to pulsate, and kept bleeding, although repeatedly ligated, until the death of the child, twelve hours after birth.

November 7, 1879, was born the third child, at the seventh month of pregnancy, with an excess of amniotic fluid; the cord pulsated and bled as before until death after four hours.

February 14, 1881, was born the fourth child, at the eighth month of pregnancy, there being marked hydramnios. The child was puny, jaundiced, had feeble respiration and pulsating cord for some time, but survived, and was nursed nine months.

In February, 1883, was born the fifth child, at the eighth month; the liquor amnii was so markedly increased that at the fourth month of pregnancy the uterus was as large as it usually is at six and a half months; the fœtal heart sounds were strong during the pregnancy. The cord beat for half an hour, when it was tied; the child died four hours later.

The patient conceived again on March 14, 1883, and Dr. Chadwick was called in consultation on June 9th, in the expectation that some means might be devised to prevent the recurrence of the hydramnios and premature delivery. He was unable to offer any suggestion, but subsequently advised the persistent use of chlorate of potash, which was done for a time, but he could not flatter himself that it had much if any effect. Early in the autumn she was seen by Dr. Fordyce Barker, who advised the use of viburnum prunifolium. There was no hydramnios in this pregnancy. At the seventh month nature made an effort for many days to expel the contents of the womb; but the uterine contractions were successfully arrested by the repeated administration by Dr. Morton of morphine. This, the sixth, child was born at full term, December 14, 1883. The child was small; the cord did not pulsate after ligation; the amount of amniotic fluid was normal. The patient was kept in bed from the middle of the pregnancy until delivery.

The above history shows a remarkable recurrence of hydramnios in successive pregnancies, even under the most favorable conditions of life and health.

DR. BIXBY alluded to the case of an anæmic woman whose abdomen was as large as at full term, but who did not think herself pregnant; he aspirated, and drew

off four ounces of amniotic fluid. Miscarriage ensued ten hours later.

The general consensus of the Society seemed to be that aspiration of the amniotic sac through the os, as suggested by Playfair, was sure to excite uterine contractions and terminate the pregnancy; and that the only available treatment was to induce labor when the distention became extreme. Anæmia should, of course, be appropriately treated when present, and various palliative measures could be resorted to.

DR. E. J. FORSTER reported

A CASE OF PLACENTA PRÆVIA, MOTHER AND CHILD LIVING.[1]

DR. CHADWICK had always used subcutaneous injections of ether in cases of collapse, and had found them equally efficient even if the patient were etherized. Dr. Sinclair and Dr. Richardson had also used ether for this purpose.

DR. RICHARDSON said he was frequently astonished at the way physicians temporize and delay when brought face to face with a case of placenta prævia: they will often resort to the vaginal tampon or colpeurynter when the patient has been bleeding for hours, and is bleached and fainting.

DR. SINCLAIR said that delay is criminal in such cases; that prompt dilatation and delivery would often save the child as well as the mother.

DR. J. R. CHADWICK exhibited

A SPECIMEN OF DERMOID CYST OF THE OVARY.

The patient had had an obscure mental and nervous affection following childbirth which had kept her in bed for three years, during which there had been frequent retention of urine, necessitating the passage of the catheter. On many such occasions a tumor had been felt, at times resting upon the bladder, at others in one or the other lumbar region; it was repeatedly pushed up almost to the ribs, where it was for the moment suspected to be a floating kidney; for long periods it could not be found at all. He was utterly at a loss to account for it, so that he attended the autopsy at the McLean Asylum, where she died of the brain lesion a month ago, with great curiosity. This dermoid cyst of the left ovary, as large as the fist, was found with a pedicle nearly four inches long, which allowed the tumor to be put in almost any part of the abdominopelvic cavity. It contained this wad of hair imbedded in a mass of solidified sebaceous matter, and four small incisor teeth attached to the same alveolar process which is still connected with the wall of the cyst.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY

WALTER CHANNING, M. D., SECRETARY.

THE Society held its twenty-second regular meeting March 4, 1884, at the residence of Dr. Rowe, City Hospital.

After the consideration of such business as came before the meeting DR. W. A. GORTON proceeded to read the paper[2] of the evening, entitled

A CASE OF MONOMANIA.

DR. JELLY said: "I have known something of the patient concerning whom Dr. Gorton's paper is written, for about two years. He had then been sending abusive, obscene, and threatening postals to various people, and was arrested by order of the chief of police. When arrested he fired a pistol at a policeman, the ball lodging in his sleeve and doing no harm. I examined him at some length for two days. His dominant ideas were the wrong way in which society is organized, the oppression of the poor by the rich, and his own personal troubles. A few months later he was arrested again, having again sent threatening postal cards. Then he was noisy and explosive in his behavior, and his language was homicidal and dangerous. He was committed to Taunton. There, after many weeks, he became rather more quiet, and induced his brother to remove him, he giving in writing certain promises which he did not keep. He, after a few weeks, wrote again many very abusive postals, threatened policemen with personal violence, and was finally arrested by order of the police commissioners. When examined he had the same delusions, and was excited, abusive, sullen, and suspicious. He was committed to Danvers. He is really a fine musician, and his brother musicians have borne everything in the way of abuse from him. I think his case a good illustration of monomania. I believe him incurable and a dangerous man, who never should be discharged from the hospital."

DR. FISHER said he first knew the patient whose case Dr. Gorton had reported, about six years ago, and his condition was precisely the same as described. It was the most limited case of monomania he had ever known. He hoped fuller information could be obtained concerning his mental condition at and before puberty. He had been unable to determine whether it was a case of *primäre Verrücktheit* or of *originäre Verrücktheit*. In some of its aspects the case resembled that of Guiteau. The peculiar views and conduct of his brother also found their parallel in the Guiteau case. In their recent books on insanity Dr. Spitzka cited Guiteau as an instance of *primäre Verrücktheit*, while Dr. Hammond classed him as a case of *folie raisonante*. The proper distinction is not always made between these forms, and was not clearly brought out by the reader. In the former the intellectual disorder is primary, and consists in a definite delusion or group of delusions concerning a certain subject. In the latter the affective disorder is primary, and the mania is shown in change of character and conduct, the patient reasoning well on all subjects, and having no delusions. Dr. Spitzka must have regarded Guiteau's claim to inspiration as a genuine delusion, while Dr. Hammond considered it the fraudulent defense of a reasoning maniac.

Dr. Fisher narrated several cases of monomania, and among them referred to the well-known case of G. W. F. Mellen, described by Dr. Rowe. Dr. Mellen believed himself the real president, and the *deus ex machina* of the northern army, which he directed in all its important movements by means of letters to President Lincoln and General Grant. Another case described was that of a merchant who went mad on the subject of Thompsonianism, and wrote crazy pamphlets in its defense, diverting his property from his heirs to found a hospital, converting his own house into an impracticable kind of hospital, for which he never found any patients, and after forty years of this folly ending his days by the exhausting effects of his own prescriptions. He also mentioned a lady who

[1] See page 126 of this number of the JOURNAL.
[2] See page 123 of this number of the JOURNAL.

has for years believed that "Boss Kelly" and Mr. Oliver Ditson were in a conspiracy to defraud her of immense sums due for copyright of some insignificant songs published by the latter. The conspiracy contemplated personifying her indecently on the stage, mobbing, and finally murdering her. Other cases were related illustrating the depressive form of monomania, wherein the depression grows out of the delusion, and not *vice versa*, as in melancholia.

CHICAGO MEDICAL SOCIETY.

DR. D. A. K. STEELE, President.

Regular meeting of July 14, 1884. The Society held a largely attended meeting, and the following scientific business was transacted: —

DR. F. A. MARTIN described

A SUCCESSFUL CASE OF ABDOMINAL SECTION FOR PYOSALPYNX TREATED BY VOLKMANN'S METHOD.

Mrs. T., American, married, aged twenty-seven, weight two hundred pounds, childless, yet desirous of becoming a mother. Four years ago aborted with a three-months fœtus. Consulted the writer one year ago because of suspected pregnancy. She had many of the symptoms of pregnancy, such as morning sickness, enlargement and pain about the mammary glands, enlargement of abdomen, etc.; although she flowed regularly every month for the four months that she considered herself pregnant, yet this secretion was scanty. An ordinary digital examination was made, but no diagnosis was arrived at. Advised the patient to call again, which she did in two months. Examination a second time resulted unsatisfactorily in ascertaining the true state of her condition. Dr. W. H. Byford, who in consultation also made a careful physical examination, was inclined to pronounce her case one of pregnancy, as the patient expressed herself that she felt very decided fœtal movements, together with the other characteristic symptoms that were present, although her menstrual flow appeared scantily each month. Five months subsequently the writer was again consulted. In company with Dr. R. W. Bishop, whilst the patient was anæsthetized, a very thorough examination by bimanual manipulation per vaginam and rectum was made. The small, undeveloped uterus was found crowded close behind the symphysis pubis, and inseparable from a large, firm-walled tumor about the size of a five-months gravid uterus, occupying Douglas's cul-de-sac, and extending upward nearly to the umbilicus, and occupying a position a little to the left of the median line. Owing to the corpulency of the patient and thickness of her abdominal walls, it seemed impossible to make an accurate diagnosis. The uterus measured two and one half inches in length. The patient was again taken to Dr. Byford, and after a careful examination at this visit he pronounced the malady a fibroid tumor of the uterus. However, with commendable conservativeness, he advised that an operation be delayed, although the patient was suffering greatly from pressure of the tumor on the bladder and rectum, from intense backache, and other reflex manifestations. In two months' time her suffering had greatly increased, and she implored that something radical be done to afford her relief.

Operation, May 15th, assisted by Drs. R. W. Bishop, L. L. McArthur, E. L. Hollister, L. T. Potter, S. Black, T. H. Swayne, and E. J. Doering. All necessary antiseptic precautions were observed. Abdominal section was made. Incision eight inches in length, extending from quite near the umbilicus to symphysis pubis. Omentum firmly adherent to the tumor, adhesions covering a space three or four inches in diameter. These were ligated and carefully separated. Not until the omentum was separated was the true nature of the tumor revealed, which proved to be a large dilatation of the left Fallopian tube with thick, firm walls. Tumor so generally adherent to the surrounding tissue that it resembled a fibroid or other solid tumor. Fluctuation was very indistinct, and only by introducing the needle of an aspirator was all doubt of it removed. Upon deeper examination the tumor was found to develop from the left horn of the uterus. On the opposite side of its attachment were the remains of the fimbriæ of the tube and ovary of the left side, the walls of which were muscular in character and very smooth. The operator intended to remove the tumor in its entirety, clamp the small pedicle, and attach it to the inferior angle of the wound, but this was found to be impracticable because the tumor was so universally adherent to the surrounding tissue; the intestines were firmly adherent upon almost the entire surface above. The rectum was so involved as to appear almost as if it were part of the tumor. Hence Volkmann's method of treating abscesses and similar tumors was resorted to, namely, stitching the walls of the tumor or abscess to the peritoneal edges of the abdominal wound, and treating it after union has taken place as an external abscess. The opening in the abdomen was closed with the exception of the lower angle, where about three inches were left patulous. The tumor was stitched to the peritoneal edges of the open wound so that about two inches in diameter of its upper surface remained exposed. The wound, of course, was dressed antiseptically. Examination on the fourth day after the operation revealed the tumor firmly adherent to the abdominal wound. A free incision was now made into the tumor, and a double half-inch drainage tube inserted sufficient to reach the bottom of the abscess. More than a quart of healthy pus was evacuated. The cavity was then thoroughly cleansed with a two per cent. solution of carbolic acid, and again, immediately after, with a saturated solution of thymol to prevent any tendency to carbolic-acid poisoning. Then at night and morning the cavity was cleansed with a solution of corrosive sublimate, one part to three thousand, and the external wound dressed with corrosive-sublimate gauze, one part to two thousand. During the succeeding ten days the patient's condition was favorable, when the temperature suddenly rose to 102° F. Eleventh day it reached 103⅗° F. Respiration irregular and frequent. Pulse 160. Dr. C. Fenger saw the case at this stage. He decided that the lining of the abscess was absorbing purulent matter, which produced the general constitutional disturbance. The opening of the abscess was enlarged by blunt pressure, and the inner surface scraped with a dull curette and cauterized with a twenty per cent. solution of chloride of zinc. Further search revealed an abscess in the thick abdominal walls, which was opened and drained. After this procedure the temperature became normal. She continued to improve until the abscess entirely discharged itself, wound closed, and perfect recovery ensued.

DR. J. H. ETHERIDGE inquired of the author what his diagnosis was before as he stated "it was confirmed while operating." He thought the case had been managed in a most consummately skillful manner, and was much pleased to hear the report. The speaker believes that great advancement has been made in treating these cases to ward off suffering and save life, and that the disease is extremely common, only we cannot diagnosticate it. A physician of Denver introduces the whole hand into the vagina of a patient whilst she is under the influence of an anæsthetic, and by conjoined manipulation he is rendered more able to arrive at a conclusion in the differentiation of this from other disease of the pelvic cavity. He would also inquire what was the result of a rectal examination. This gentleman then presented the history of a case of pyosalpynx, and exhibited the *pathological specimen* that he removed from a case that had recently been under his care. There is nothing particular that needs mentioning about the operation. The case is the ulterior result of perimetritis, which extended and brought about salpingitis. This author stated he had no doubt but what an old gonorrhœa, where it is latent and the discharge scarcely, if at all, perceptible, was often one of the causes of it. A long-continued, chronic orchitis also may produce it. Yet upon inquiring of Dr. A. H. Burr if such difficulty was traced to the husband of the patient in the case he now presented, he was answered negatively. The pathological conditions, as he stated them verbally, are as follows: The right ovary was free from adhesions, and was in a comparatively healthy condition. The right Fallopian tube was inflamed and enlarged. Its fimbriated extremity was so changed and enlarged by previous inflammation that its fimbriæ were obliterated and the canal stenosed absolutely. The fimbriated extremity was free. The left ovary was imbedded in an accumulation of inflammatory exudate, which involved the broad ligament and tube in an indistinguishable and non-separable mass. The left Fallopian tube was inflamed and enlarged throughout its whole length. Its fimbriæ were enmassed and indistinguishable. Its canal was patulous, the distal mouth opening into the abdominal cavity. The outer third of the tube was inseparably agglutinated to the upper surface of the ovary. It was impossible for the free end of the tube to be brought in contact with the ovary because of the obliteration of its fimbriæ, its universal enlargement, and of the complete encapsulation of the ovary. A serous cyst, the size of a pullet's egg, was developed in the inflammatory adhesions of the broad ligament and tube. It was simply a serous accumulation from the perimetritic inflammation. A minute parovarian cyst had commenced, developing beneath and outside of the broad ligament cyst. The condition of the tubes showed that the patient was irremediably and hopelessly sterile. The inflammation and patulous canal (opening into the free abdominal cavity) of the left Fallopian tube constituted the chief source of danger to life. Pus and inflammatory product extruded from the fimbriated extremity was constantly liable to start up renewed attacks of inflammation, which would soon have fatally exhausted her. From this source she has had, doubtless, many minor attacks of perimetritis already, each in turn increasing the exudate which encapsulated the left ovary. The irritation from incarceration of the left ovary in menstruations is probably what led to the menorrhagias which were progressively blanching her. The condition of the pelvic peritonæum which produced a hæmatocele nineteen months ago, together with the salpingitis, perimetritis, and menorrhagia, resulting in progressive anæmia, emaciation, and debility, seemed to demand imperatively the entire removal of the uterine appendages. Death followed in a few days.

DR. H. P. NEWMAN'S experience in these cases was that they are difficult to diagnosticate, and are very troublesome ailments. He thought the successful case as reported was extremely well managed, but would like to ask the writer to explain more minutely his means of diagnosis during the earlier stages of the disease.

DR. L. L. MCARTHUR, regarding Volkmann's method. He had seen it carried out in the treatment of three cases of abscess of the liver and one case of abscess of the spleen with slight modifications. This was done in the service of the City Hospital, and is there approved.

DR. L. T. POTTER inquired, if the neck of the uterus was the normal length would he have been justified in passing a probe earlier? If the tumor pressed the uterus to such degree that the uterus resembled a uterus containing a fœtus?

DR. MARTIN replied as follows: That he did not discover the exact nature of the tumor until the time of the operation, and not until after he had entered the abdominal cavity and introduced an aspirating needle; fluctuation was very indistinct. The tumor seemed very dense, the abdominal walls were at least three inches thick, so that great difficulty was had in trying to outline any form of tumor, even by the minutest examination. The cause of it could not be ascertained. He was in doubt for months whether pregnancy existed or not. Thought perhaps one cause of these tumors might be from stoppage of the uterine orifice of the Fallopian tubes. It was utterly impossible to diagnosticate the case at any stage. Bi-manual manipulation through the rectum and otherwise availed nothing. The rectum was adherent in every direction to the (as supposed) uterus or tumor. Other physicians who saw the case from time to time were in doubt, as was stated in the paper, in their diagnoses, and several different opinions were offered by them. He was afraid to manipulate the womb to great extent or to introduce a probe, as the woman was very desirous of bearing a child, and nearly all the evidence showed that the uterus contained a fœtus, and yet two or three examinations were made before the uterus was found. It was crowded close to the symphysis pubis. The neck of the organ was not in the position it usually occupies when a woman is pregnant.

FRACTURE OF THE CLAVICLE AND ITS RATIONAL TREATMENT,

by DR. S. W. WETMORE, was an unusually carefully prepared and finely illustrated paper. Many of the methods of treating this accident were alluded to. Only two, however, were described minutely and indorsed by him. We append the following synopsis: —

The writer demonstrated first the method introduced by Dr. E. M. Moore, of Rochester, N. Y., having a student on whom he adjusted the dressings. As the literature of clavicular fractures is replete with a multiplicity of appliances having for their object the restoration, coaptation, and retention of the fragments during the process of repair, surgeons during the last half century have very closely followed the ways of the old

masters, but the introduction of the most effective, simple, practical, and satisfactory retentive measures is to be accredited to men of our day.

Causes. After discussing how fractures of the clavicle are most frequently produced, describing the solution of continuity, etc., etc., he thus continued: If the fracture is complete the shoulder is depressed and drawn forward by the action of the pectoral muscles, while the inner portion of the sternal fragment is salient, and sometimes perforates the tissues sufficiently to constitute a compound fracture, though happily this complication rarely occurs. To better comprehend the obstacles with which we have to contend, the reader should be familiar with the origin, insertion, and action of the great pectoral and sterno-cleido-mastoid muscles. The peculiarity of the pectoralis major is that its upper fibres become undermost at its insertion, and its under fibres become uppermost.[1] The clavicular fibres of this muscle are direct antagonists of the sterno-cleido-mastoid, and the further the humerus is carried backward the greater the tension of these fibres and the more perfect the restoration of the fragments. The elbow figure-of-eight bandage meets all the requirements in a simple fracture of the clavicle in the middle third, the one under consideration, by using a shawl, or piece of cotton cloth, or muslin, folded like a "string neck-tie," or cravat, but eight inches in breadth, and two yards long. Placing this wide folded bandage across the palm of his hand, the surgeon then seizes with this hand the elbow of the patient which corresponds with the broken clavicle. The two ends of the bandage hang to the floor. The one falling inward towards the patient is carried upward in front of the shoulder and over the back, making a spiral movement in front of the shoulder. This is intrusted to an assistant. The outer end is then carried across the forearm, behind the back, over the opposite shoulder, and around the axilla. This meets the other end, which may be carried under the axilla and over the shoulder of the opposite side, thus making the figure-of-eight turn around the sound shoulder.[2] This twist, it will be seen, makes also the figure-of-eight turn around the elbow of the affected side. The fore-arm should be sustained by a sling which raises it to an acute angle, in order that gravity may assist in moving the whole arm backward. This is best done by a simple strip three or four inches wide, which may be pinned to the fabric or bandage at the shoulder, or by a sling across the opposite shoulder and behind the back. It will be observed that the bandage, as it passes in front of the arm, does not press on the axillary border of the pectoral muscle, and therefore avoids the objection of the ordinary figure-of-eight. The writer has treated a number of cases during the past ten years by this method with no unsatisfactory result, and heartily commends it to the profession. Its advantages are: (1.) The apparatus is readily obtained and found in every well-regulated household. (2.) It can be applied over the ordinary clothing. (3.) It is readjusted easily when it becomes disarranged. (4.) Any attendant can be instructed so as to readily keep it in place.

The next method described was that of Dr. Louis A. Sayre, of New York City, who treats fractures of the clavicle upon the same principle, namely, *putting the clavicular portion of the pectoralis major muscle on the stretch*, and compelling it to pull the clavicle into place by means of adhesive plaster cut in two strips three or four inches wide (for an adult), one piece long enough to surround the arm and go completely around the body, the other to reach from the sound shoulder around the elbow of the fractured side and back to the place of starting. The first piece is passed around the arm just below the axillary margin, and pinned or stitched in the form of a loop sufficiently large to prevent strangulation, leaving a portion on the back incased by the plaster. The arm is then drawn *downward* and *backward* until the clavicular portion of the pectoralis major is put sufficiently on the stretch to overcome the sterno-cleido-mastoid, and thus pull the inner portion of the clavicle down to its level. The plaster is then carried smoothly and completely around the body, and secured with a safety pin to itself on the back to prevent slipping.

The first strip of plaster fulfills a double purpose: first, by putting the clavicular portion of the pectoralis major muscle on the stretch, it prevents the clavicle from riding upward; and, secondly, acting as a fulcrum at the centre of the arm when the elbow is pressed *downward*, *forward*, and *inward*, it necessarily forces the outer extremity of the humerus (and with it the shoulder) *upward*, *outward*, and *backward*. It is kept in this position by the second strip of plaster, which is applied as follows: Commencing on the front of the shoulder of the sound side it is drawn smoothly and diagonally across the back of the elbow of the fractured side, where a slit is made in its middle to receive the projecting olecranon.

Before applying this plaster to the elbow an assistant *should press the elbow well forward* and *inward*, and retain it there while the plaster is continued over the elbow and fore-arm, pressing the latter close to the chest, and securing the hand near the opposite nipple, crossing the shoulder at the place of beginning; it is there secured by two or three safety pins. When this has been done the deformity will have entirely disappeared, the fractured bone will be accurately adjusted, and as long as the strips of plaster maintain their position no amount of force can displace them. It will thus appear obvious to any one interested in the treatment of this most interesting lesion that the key to its successful management is in making the clavicular fibres of the great pectoral muscle tense, and keeping them so during the period required for repair. *No method can be successful if the humerus be allowed to maintain a perpendicular position.* The plaster method of retention has some advantages over the "neck-tie" bandage method. It is evidently the more secure, firm, and unyielding *at first* (very desirable qualities, particularly with children), and the patient presents a more comely appearance when dressed. Its disadvantages are that the surgeon and particularly the country practitioner do not always have with them the plaster. In hot weather the plaster is apt to excoriate and become irksome and unpleasant. Again, if sufficient traction be made upon the humerus to be of utility as a lever, it necessarily becomes tedious to bear, and the patient tires of the constant strain. The writer did not feel qualified to criticise very closely the plaster method; each of the above two modes has been before the profession for several years, and it is to keep before the

[1] See any work on Surgical Anatomy where a dissection of these two muscles is illustrated.

[2] The reader can easily follow the description herein stated by the adjustment of a shawl or a piece of muslin eight inches in width so that when it is folded upon itself it will be four inches wide; then apply it to any member of his household over the subject's clothing.

medical world those remedial measures which the writer's experience has proven to be the most perfect in their results that the subject is brought forth, although not as advancing anything new.

The paper elicited a free discussion, which was participated in by many of the members.

DR. R. W. BISHOP briefly cited the main points of a case of double fracture of the clavicle that he was recently called to attend. He found a three-cornered piece of the bone broken off that was wedge shaped and turned "up" edgewise under the skin. The best dressing he could devise did not retain the fragment in position, yet the case appears to be progressing favorably.

DR. C. E. WEBSTER visited Bellevue Hospital, New York, last year, and through the courtesy of a friend, who was an interne at the place, he was shown a number of cases of fracture of the clavicle, and noticed that Sayre's method of dressing was applied to but very few of them. Upon inquiry how this happened, the reply was, Sayre's method is applied to a good many of these cases at first, especially if treated in the lecture room, but excoriation results, and the dressings become loose, and others are applied, which the gentleman explained, and which were found to be those generally familiar to physicians.

DR. W. L. AXFORD had listened to the instructions advanced by the author with much interest and pleasure. The solution of continuity or fracture of the clavicle generally occurs at the middle and outer third, and there is deformity either of the acromial or sternal fragment, or both. The philosophy of dressing a fracture of this kind is to raise the outer or acromial end or lower the sternal fragment, or do both. The former is more acceptable, and yet more or less deformity will result. There are a multiplicity of devices by which to dress these injuries. He held it to be axiomatic that the case will pursue its own course with any method, and union take place. He was therefore skeptical of any one method as being better than all others. He would, before closing, like to ask the reader of the paper if his cases that he treated resulted with no deformity?

The CHAIRMAN saw the case cited with Dr. Bishop. There was a comminuted fracture of the bone, and a small piece of spicula with tilted edge that could not be retained in position. The method the author has dwelt so elaborately upon is known here as Dr. R. N. Isham's plan. That is to say, the sound shoulder is made a hitching post and a double figure-of-eight bandage is applied. It gives as good results as any unless it is a plaster-of-Paris dressing, which is irksome and difficult to apply to little children. His success with all methods resulted in more or less deformity. Nature would give admirable results by placing the arm of the affected side in a sling and securing this to a tightly fitting knitted shirt. Long ago he abandoned the adhesive plaster method.

DR. A. B. STRONG was profited by the author's remarks and the illustrations of the paper. The "cravat method" is new to him. Regarding the anatomy of the parts concerned, he said that while the subclavius muscle was not mentioned as having anything to do with the deformity, he thought, however, it did increase it by being excited to contraction, or by its being irritated; the dense fascia also increases the deformity from a like cause. He never saw a dressing give satisfactory results, and thought that placing the arm in a sling, and having the patient lie on a hard mattress, was the best possible known method; all are irksome, but upon a man any kind of appliance would do.

DR. L. H. MONTGOMERY had treated a number of fractures of this bone; all have recovered, and were as strong as before the accident occurred, so far as he knew. He could state positively that in two no deformity existed at the end of a few weeks. One of these occurred in a little boy, being the so-called "green-tree fracture." The other case occurred to a young man eighteen years of age, a clerk; he was anxious that no deformity should result. The speaker told him the only way to avert this was for him to lie in bed for three weeks. He did so for nearly this length of time, with the fracture dressed as any one ordinarily dresses such cases with the addition of a bag of sand over the seat of fracture, and a perfectly satisfactory result was obtained. This method in the treatment of a case of this kind is especially indicated if the patient is a lady.

DR. W. H. CURTIS thought considerable danger might occur from a tightly adjusted sticking plaster dressing around the arm, of strangulation of the brachial artery, especially if it were a long time applied and swelling of the part occurred.

DR. WETMORE closed the discussion, and replied first to Dr. Axford, by stating that he had, as stated by him in the paper, treated a good many cases occurring in children and females by the plan he recommended and no deformity existed. In strong, athletic men he also could recall more than one instance in which there was a satisfactory result and no deformity. During the year 1857 he saw his preceptor treat a case by having the patient (a man) lie in bed upon a bolster, that the weight of the shoulder might pull back the clavicle, and the man recovered perfectly.

The next paper was a very comprehensive one on

RHINOLITHIASIS, WITH A REPORT OF A CASE OF ABOUT FORTY YEARS' DEVELOPMENT,

and exhibition of the specimen, by DR. JEFFERSON BETTMAN.

The following brief synopsis taken from the voluminous article, is here appended: —

The comparative rarity of this affection, the interesting features connected therewith, will be found in a short recital of a case of probably forty years' development. *Status præsens:* The patient is a gentleman, forty-nine years of age, who consulted the writer in June, 1883, for what he termed "chronic catarrh in the head," extending over a period of many years. Of late the annoying symptoms had become more aggravating. The nasal discharge was so copious as to necessitate a daily use of from four to six handkerchiefs. Periodical attacks of hemicrania extending over the right orbital and temporal regions also complicated the case; marked obstruction on the right side of nasal respiration. Physically he is of good dimensions, well proportioned, a picture of florid health. External nose appeared congested and slightly tumefied; borders of the nostrils somewhat excoriated. Introduction of the nasal speculum occasions violent attacks of sneezing. This exquisite hypersensibility of the mucous membrane quite precluded a thorough examination of the nares. There was limited fetor in the expired breath, yet sufficient to be imparted to the nasal secretion; this was also very viscid, slightly flocculent, and filled both nostrils, necessitating removal

ere permitting a survey of the parts. Illuminating the nares, a marked vascularity and thickening of the mucous membrane was noticeable. The tissues covering the inferior turbinated bones were so thickened as to encroach upon and nearly obliterate the fissura respiratoria. . . .

The mucous membrane covering the septum presented almost a fungoid appearance. Both middle turbinated bones were enlarged so as to press upon the septum. The posterior part of the right nasal fossa was filled with an accumulation of creamy looking discharge, and attempts at its removal by a well-directed stream of tepid water were futile. The nasal lumen was so narrowed and encroached upon by the hypertrophied turbinated bone and a co-existing deflection of the septum that it was with difficulty a cotton-wrapped probe could be guided through the parts that were so sensitive. Palpation revealed the presence of a hard grating substance occupying the floor of the right nasal fossa, which was supposed to be necrosed bone as a result of a constitutional dyscrasia. Thorough inquiry in this direction, however, elicited negative replies. To allay the morbid sensibility of the parts a detergent nasal lotion was advised, to be used *ad interim*. In two days' time this proved effectual, as the hypersensibility and tumefied mucous membrane were markedly improved and reduced. Under a strong illumination the position of the foreign body was then defined; it lay on the floor of the nasal fossa in its posterior half and seemed to be impacted between the bony septum and inferior turbinated bone. The exposed surface of the body was rough, uneven, unyielding to the touch of the probe. To dislodge and remove it a pair of strong aural forceps bent at right angles were used. Upon traction being made a firm resistance was met with. The fauces, too, were uncontrollably irritable, defeating all attempts at posterior rhinoscopy. The size of the body had been undoubtedly underestimated. Its removal in toto anteriorly was impossible on account of the narrowed lumen of the nasal passage. Attempts at removing it piecemeal were but partially successful after repeated trials. The feasibility of removing it through the naso-pharyngeal space presented itself. The patient being cautioned not to inspire deeply or swallow, while the operator guarded the faucial orifice, the foreign substance was then forced into the naso-pharyngeal space and in a moment the gentleman spat it out. It was darkish gray, almost black in color, conoidal in shape, and having a very disagreeable odor. Its weight, firm consistency, and the pebble-like uniformity of its unexposed surfaces were sufficient to indicate its calcareous constitution. Irregular in shape, the contours of the concretion conformed to the confines of the surrounding tissues. Its medial surface measured one and a half centimetres in length by one and a quarter centimetre in breadth; the inferior surface one and a half by one half centimetre. The exact weight was one and a half gramme, and imbedded in the mass was a cherry stone. Incidents of the patient's early childhood were vividly impressed upon his memory, but in no possible manner could the presence of the cherry stone be accounted for. Free nasal respiration was fully restored and great relief followed. Subsequently, however, a small mucous polyp high up in the same nostril under cover and almost hidden by the middle turbinated bone was discovered, which was easily removed. . . .

The writer then minutely reviewed the literature on the subject of Rhinolithiasis. Stoerk avers that he has seen but one example of it. No mention of it is made in many works on general surgery. The term was first applied by Demarquay, and our French confrères describe the greater number of cases. Demarquay and Poinsot have written brochures on this subject. The determining cause is the presence of a foreign body which forms a nucleus for the deposition of lime salts. Nasal concretions have, however, developed independently, and where not due to the presence of any extraneous substance, congenital or acquired atresia, stenosis of the nasal lumen favors the retention and subsequent dessication of nasal secretion, and offers a nidus for a concretion. A gouty diathesis may also be a predisposing cause. Virchow describes a "diathesis ossifica" as a cause. This is an entirely different process, yet somewhat similar to the subject under consideration. During an act of vomiting or retching, undigested particles of food may be forced through the naso-pharyngeal space and lodge in the posterior nares, and may be the nidus; barring this possibility, in the foregoing case the concretion may be presumed to have been one of more than forty years' development. . . . Jacquemart lately described a case where the trouble existed over twenty years.

Multiple rhinoliths have been found in rare instances. Their concentric deposition was next described by the writer at considerable length, also their chemical composition. The *symptoms* excited by their presence are frequently not marked, and hence they are doubtless often overlooked, the rhinorrhœa being regarded and treated as catarrhal congestion of the tissues, which often may result in epistaxis. "The chronic vascularity induces a state of hyper nutrition and cellular activity in the surrounding tissues favoring redundancy and neoplastic changes." (Billroth.)

Hemicrania or nervous headache is a noteworthy symptom that is present in many cases. This may be periodical and checked by spontaneous expulsion of minute concretions (Axmann). "Also other reflex neuroses may be present" (Hack).

Posterior rhinoscopy occasionally renders valuable service in this direction. In Jacquemart's case, already alluded to, himself and more than ten consultants had made a previous diagnosis of osteo-sarcoma. A few cases are on record in which rhinoliths were expelled spontaneously, as where the concretions were very small. A stream of hot water injected through the opposite nostril may in some cases prove effective in dislodging the concretion. "Sternutatories may be worthy of trial" (Frankel). The dental drill might render signal service. In post-nasal extraction of a calculus strict precautions must be adopted to prevent it from falling into the larynx.

The remainder of the paper contained many useful hints on the part of the surgeon as well as the patient, and the humane precautions to be taken, but which are often neglected in treating nasal disease.

The paper was discussed by DR. F. O. STOCKTON, who stated that one very simple method the essayist omitted to mention in treating these cases, was by strong pressure from the posterior part of the throat to expel the rhinolith through the anterior nares; this was far the more preferable method of extracting them. The opposite nostril should not be closed when this method is essayed. Another way to remove this form of calculus is by a small loop of iron wire to secure the calculus and rotating the wire upon the stone.

He then cited a case coming under his observation where there was absorption of the small bones, where the stone had pierced some of the small bones of the face. He employed an engine with a diamond drill, or a dental drill with a diamond point, and bored in different directions, and removed it in this manner piecemeal; the mucous membrane and other soft tissues were not in the least injured by the operation. He knew of no other case ever having been treated in this manner. The engine is the invention of Dr. Goodwillie, of Philadelphia, and is used by him in dentistry. The patient operated on was an English gentleman in London, England.

At a late hour the Society adjourned.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

C. B. NANCREDE, M. D., RECORDER.

THURSDAY evening, June 26, 1884. The President, DR. TYSON, in the chair.

SPECIMENS FROM A CASE OF RESECTION OF THE HUMERUS.

Presented by DR. NANCREDE.

Mary D., aged seventeen years, from whom these specimens were removed, received a severe compound comminuted fracture of the left humerus by having her arm wound around the main shaft of a spinning mill's machinery on January 2, 1884. She also at the same time received several severe scalp wounds. Irrigation with bichloride of mercury solution resulted in the salvation of the arm, although in the effort the girl nearly lost her life. At the end of six weeks, no union having taken place, the ends of the fragments being necrotic, I cut down, removed the small fragments here presented, and after sawing off the ends of the main fragments drilled and fastened them together with two stout silver wires. The whole extremity was then put up in a fixed apparatus, plaster, which was not disturbed until irritation of the skin from pressure, etc., required it. Now, at the expiration of about five months, the fragments seem firmly consolidated, with the line of the bone apparently perfect.

MICROSCOPIC SLIDES FROM A CASE OF SPINDLE-CELLED SARCOMA OF THE BREAST.

Presented by DR. G. DE SCHWEINITZ.

I desire to exhibit a few sections this evening cut from a tumor of the breast removed by Dr. John Ashhurst, in the University Hospital. The history of the case, in brief, is as follows: Annie S., married, aged thirty-five, the mother of four children. Family history good. Her own health good until two years ago, when she began to suffer from malaria. The tumor of the breast first began to be manifest one year ago, and grew gradually without much pain until the date of operation, when it had attained the size of an orange. There was no enlargement of the axillary gland. The nipple was not retracted. The growth, to the touch, was hard, and in spots the skin had become adherent, giving rise "to the pitted, somewhat brawny or lardaceous appearance" which is described by surgical writers as rather indicative of scirrhus of the breast. This appearance was sufficiently marked to cause the diagnosis of hard carcinoma to be suggested as probably correct. After removal, when the mass was laid open, both cut surfaces did not appear concave as is usually the case in a scirrhus. Microscopic examination cleared up the diagnosis, for, as you will see by examining the specimens, they show the typical appearances of a small spindle-cell sarcoma. It seemed a good case to illustrate the difficulties sometimes encountered in correctly diagnosticating tumors of the breast, and for this reason I have briefly placed it upon record.

Recent Literature.

Brain Exhaustion, with some Preliminary Considerations on Cerebral Dynamics. By J. LEONARD CORNING. New York: D. Appleton & Co. 1884. 234 pages.

Brain exhaustion, nervous exhaustion, neurasthenia, etc., are the diseases from which just now very many are suffering or think they are suffering. There is a real danger for business men, fashionable women, and those who cannot follow fashion and society, a danger that the cares and worries of life, irregular hours, loss of sleep, and the hundred other unfavorable influences of modern civilization should break down the nervous energy and power. It is well, perhaps, to have these dangers presented anew in order that those not heretofore influenced may be led to see their danger.

Dr. Corning has presented some facts very well, and there are many chapters in his book well worth reading. The incapacity shown by most persons for mental work and great muscular activity at the same time is happily mentioned on page 45. There are many good points in regard to "false educational conceptions and methods," "the exciting causes of brain exhaustion," also as to the influence of emotions, the bad effect of changing life-long business habits, etc.

Many chapters are incomplete, and contain one idea spun out at considerable length instead of giving a more complete but short résumé of the subject. The result is that certain subjects have an undue prominence, and their importance is exaggerated.

The term "cerebral softening" is used several times in its popular sense rather than as a medical term. The popular ideas of cerebral softening are vague, and too many physicians use the expression loosely. In a medical treatise there should be a more exact use of terms. The impression conveyed by the book as a whole, however, is less scientific than popular.

The need of sleep, of brain rest, the general outline of treatment is good. Compression of the carotids is again advocated.

We cannot give the book warm praise as a whole. Much in it has been said as well or better by others; it gives emphasis to facts which are less noticed by other authors, and time spent in reading it would not be wasted.

The Principles of Ventilation and Heating, and their Practical Application. By JOHN S. BILLINGS, M. D., LL. D., Surgeon United States Army.

While disclaiming any intention of writing a systematic manual on the subjects of ventilation and heating for the use of skilled architects or engineers, Dr. Billings has nevertheless presented the subject in a plain and practical manner, the general principles being clearly stated in the opening chapters of the work.

The text is amply illustrated with many diagrams of systems in use in public edifices and hospitals, both American and foreign. The style is clear and free from useless technicalities; formulæ, when necessary, are stated in an intelligible manner. The writer is unsparing in his criticism of faulty methods.

Physicians, architects, engineers, and teachers will all find in it a valuable assistant.

Medical and Surgical Journal.

THURSDAY, AUGUST 7, 1884.

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SUGGESTIONS CONCERNING CHOLERA.

SINCE our previous remarks on cholera, in which reference was made to the circulars of the Boards of Health of New York and Illinois and to the steps taken by the State and Treasury Departments at Washington, additional circulars have been issued by the health boards of three New England States — New Hampshire, Massachusetts, and Connecticut. Of the other three New England States, Maine and Vermont have no boards of health, and from Rhode Island we have seen no official announcement of policy. The circulars issued by the three New England States are, in the main, sound, sensible, and timely papers, and, as those Boards have not only sent them to all local authorities concerned in the question of cholera but are ready to mail them to all citizens requesting copies, the local health authorities and inhabitants at large cannot plead ignorance either of the nature of the emergency or of the proper prophylactic measures to be adopted should they fail to prepare themselves for a possible visitation of the disease.

The comparatively moderate character of the epidemic thus far in Toulon and Marseilles, where it first manifested itself, and the absence of the disease thus far as an epidemic from other populous centres in Europe, are not reasons for remitting in any way our own efforts in this country to guard against or prepare for an invasion. Nothing will be lost by a vigilant inspection of vessels and cargoes, whether at the point of departure or arrival, to which suspicion in any way attaches; and a positive gain will in all events arise from whatever measures of cleanliness and general hygiene are enforced in public and private places without and within doors.

Let all classes, the layman as well as the physician, distinctly understand and bear in mind that cholera does not arise *de novo*, but is a filth disease in the sense of being propagated by filth and moisture; that the poison is generally spread by the alvine discharges and absorbed by the alimentary canal; that just as it multiplies most readily in ill-kept places so it is absorbed most readily by ill-kept systems; that though infectious it is not contagious; that whether the active principle be represented by a comma-tipped bacillus or any other micro-organism — and Koch's commission to the contrary notwithstanding, its nature has not yet been demonstrated — the poison finds an abode in drinking-water, on food, in clothing, and may be avoided by sufficient care or destroyed by active germicides.

Bearing these points in mind we may protect ourselves against an epidemic, or, behaving ourselves with discretion in its presence, avoid those lamentable and ridiculous occurrences exhibited where fear and ignorance direct men's actions. Of such occurrences the reports from the South of France afford extreme examples, and the following extract from the London *Lancet* (July 26th) exhibits instructively some of the follies of senseless fumigation and red-tape quarantine: —

"One instance is from Geneva, where impecunious people get into the train, and having given passengers an exaggerated account of the process of disinfection they will have to go through they exchange tickets, and for a substantial consideration they undergo the fumigation discomforts instead of the genuine travelers. The other comes in the form of a protest from the passengers of the homeward-bound steamer Mira from Calcutta. Before touching at Colombo, on April 21st, one of the crew died of cholera. All necessary precautions having been taken the vessel reached Suez, and though sixteen days had elapsed, and all on board remained well, she was ordered to El Tor to perform seven days' quarantine. No proper arrangements had been made for their reception, and a few wooden huts, with some disgustingly offensive privies, afforded the only accommodation available for a large number of first-class passengers of both sexes. Such an arrangement is discreditable in the extreme to the Sanitary Council of Alexandria. But what follows is worse than discreditable. The death had occurred amongst the crew, who occupied an entirely distinct part of the ship from that which was reserved for passengers. And yet it was the passengers who were thus compelled to leave the ship and to go into quarantine, the crew being allowed to remain on board."

ANTISEPTIC MIDWIFERY AT THE DUBLIN ROTUNDA HOSPITAL.

A REPORT of the Dublin Rotunda Hospital by Dr. Macan for the year ending November, 1883, deals chiefly with the application of antiseptics to midwifery. This was the first year that Dr. Macan occupied the responsible position of Master at that well-known lying-in Hospital, and the results of the year's work, although only for one year, unquestionably confirm the wisdom of the antiseptic precautions and methods adopted, whilst supporting the correctness of the theory that puerperal fever is caused by the absorption of animal matter in a state of decomposition, such

matter in one class of cases being introduced from without, and in the other class being derived from the patient herself.

Any one acquainted with the wonderful diminution achieved in the death-rates of lying-in hospitals on the European continent, and especially of those at Prague and Vienna, by a simple attention to cleanliness and antisepsis, need not be surprised at the remarkably favorable results exhibited by this report. Dr. Macan himself, being, as we know, personally cognizant of the continental experiences, could have entertained doubts only as to the feasibility of practically enforcing his methods, but not as to their abstract desirability. The figures given, even though happening to apply to a favorable year, must therefore be regarded not only as a tribute to good judgment, but also to unusual executive ability and good discipline.

Six deaths comprise the total mortality from all causes of 1090 women during the entire time they were at the hospital. This mortality of 0.55 per cent., or one in 181.6 patients, represented, therefore, not only the puerperal mortality, but the total mortality of the puerperal state. The puerperal mortality of private practice is estimated by Dr. Matthews Duncan and Dr. McClintock as not less than one in 120 cases, and the Master of the Rotunda may properly take pride in the reflection that a patient delivered in that institution during the past year ran far less chance of dying than if she had been delivered in her own home by a private practitioner.

To prevent hetero-infection the following are among the important precautions adopted: Students engaged in dissecting are not admitted to the lying-in wards; all students and nurses, before examining any case of labor, are compelled to wash the hands with a nail-brush in a carbolic-acid solution, and to dip them subsequently for half a minute in a solution of corrosive sublimate, one in one thousand; to lessen the necessity of making vaginal examinations abdominal palpation, as at Vienna, is taught each student; every person who examines a woman *per vaginam* must write his or her name on the patient's card, that the origin of an infection may be traced; as soon as the child is born the woman is made to lie on the back to prevent the entrance of air into the vagina or uterus, and the genitals may not be touched with the fingers after delivery except in cases of ruptured perinæum, post-partum hæmorrhage, or retained placenta; before stitching up a ruptured perinæum the vagina is injected with carbolic-acid solution (one in forty); the vagina is irrigated, and the external genitals are carefully washed before every operation, the uterus syringed out afterwards, and a pessary containing ʒiss. of iodoform is then passed to the fundus and left there. All vaginal and uterine tubes are made of glass; a separate tube is provided for each patient, which is kept in carbolic solution and boiled in the same before being used for another; only silver catheters are used, and these subjected to the same treatment.

The prophylactic precautions adopted during labor being sufficient Dr. Macan sees no necessity for any prophylactic antiseptic injections, whether vaginal or uterine, in the puerperal state. The external genitals are washed twice daily with plain warm water and a piece of oakum instead of sponge.

To guard against auto-infection the entrance of air to the uterus is prevented by attention to position; any fetid accumulation is quickly removed; the cavity is disinfected; an iodoform pessary, which exerts its antiseptic action for three or four days, is introduced, and free drainage is provided for.

During the last few months covered by the report the temperature of every case was taken regularly twice daily without indicating any constant rise, even to the extent of one degree, accompanying the first secretion of the milk; these observations tending to show that the temperature curve, in a typical normal case, does not differ from that in the non-puerperal state, and Macan is inclined to regard any temperature above 100° F., except immediately after delivery, as indicative of something abnormal, though it may not always be possible to explain the exact cause of the rise.

Such care as is now exercised at the Rotunda deserves the reward of good results, and we hope such results may be continued there, and become less remarkable only by becoming more common elsewhere.

MEDICAL VERNACULAR.

EVERY physician is obliged to train himself in the oral examination of patients and to acquire something of a lawyer's shrewdness in cross-examination. Sometimes he must draw out an unwilling witness; oftener he must help, without influencing, a patient whose mind is untrained to close examination and nice distinctions, to give as accurate a history as may be of symptoms he cannot appreciate, and of whose significance he is ignorant. Oftentimes the patient's vocabulary is too limited to supply proper words to express his ideas, and sometimes, we fear, the physician is unable to comprehend the poorly-expressed ideas of the willing but incompetent witness who uses words and phrases which have a more or less definite meaning to the narrator, but are unknown to the physician. In fact, a physician connected with a charitable institution of one of our larger cities is brought face to face with every dialect of English and the broken English of the natives of every country on the face of the globe. A study of the pseudo-medical and unusual words in use among the uneducated classes is not without its interest, and by no means devoid of profit to the man desirous of properly understanding the people with whose physical welfare he is concerned.

Some of these lay medical terms are wonderfully descriptive of the condition to which they are applied. Certain of them deserve perpetuation rather than the more modern but less graphic scientific terms for the same trouble. "Lock-jaw" is a common example of these terms. "Show" is almost as good. "Rupture" is moderately good as a descriptive term, but it is doubly good to describe a hernia which goes back with an audible gurgle as a "windy rupture." "Inward fits"

and "dry belly-ache" are well-known terms of great antiquity, as is also the use of "itch" for "scratch." "He has *an upward and downward purging*, sir," will tell many a doctor during the coming weeks, in terms that he cannot misunderstand, that he is summoned to a case of cholera morbus. An "impression on his chest" or, in brief, "an impression" describes a difficulty of breathing from any cause, most commonly used of young children with severe bronchitis. "To heave off from one's stomach" is exceedingly common. Naturally an ineffectual retching is an "empty heaving." Only an Irishwoman can attain the poetic height of "heaving an empty stream."

In this category should also be included "the windy dropsy," which, if it means anything, ought to be an emphysema. This term has been met with but once, when a young woman was heard to inquire whether her mother's complaint was the "water dropsy" or the "windy dropsy."

A baby worn down by diarrhœa, unable to hold itself upright, is well described as "kinder *slack*."

The curious tendency to eke out a scanty vocabulary by frequent and vain repetition is by no means confined to the heathen nor to various forms of worship, but shows itself particularly in attempts to make plain to the medical man the symptoms which the patient considers he ought to understand so easily without explanation.

Ignorance of the proper meaning or the derivation of words leads to curious reduplications, as, for instance, "pneumonia of the lungs," "dysentery of the bowels;" the "yellow jaunders" is a similar reduplication, but the use of the adjective of color is justified, as it allows differentiation from the more terrible "black jaunders."

Some of these words seem to have acquired a perverted meaning when used in reference to matters of health. "Better" has acquired a meaning synonymous with well; for example, a physician asking his patient if he is better is answered in the negative; examination showing a decided improvement he says, "You are certainly very much better," and is answered, "Well, perhaps I am most better, but not quite," and he will announce his final recovery by saying that he is "all better."

A curious instance of this use of the comparative is found in William Black's Shandon Bells. The speakers are supposed to be exceptionally well-educated people. "I was almost forgetting to ask how your aunt is, — better I hope." "Oh, I think so. I think she is almost quite better." . . . "But she is not ailing now?" "Oh no, scarcely at all."

Backwoodsmen and sailors occasionally ask to have their teeth "hauled." One old lady took great delight not very long ago in telling her doctor that her leg did not "render," that is, discharge, so much as before commencing treatment.

The most interesting of these words are those which have dropped out of the written language and survive only in the vernacular. Most of these words have a history, and, like so many of the expressions of the vernacular, have seen better days; Archbishop Trench would describe them as drawing out a miserable existence in reduced circumstances. Many of them serve to perpetuate the pathology of former days or continue an inaccurate nomenclature. Many an interesting lesson in the history of medicine or the history of the language may be learned from them. One of the most curious of these survivals is the King's Evil, which has lost its royal title, and survives as simply an *evil*, a term occasionally heard applied to suppurating glands of the neck. The old word "poll," which survives in a few technical phrases, is still used by people of Celtic origin.

"Rising," for a swelling, occasionally used now for an abscess within the auditory meatus, survives from the time of King James's Version of the Bible. "Corruption," found in King James's Version as indicating putrefaction, now refers to pus. "Beal" is very commonly used to express supparation. Rab's master said, "Our Ailie's skin 's ower clean to beil." To speak of a pharmacist to-day as "a 'potecary" marks the speaker as an individual of little learning, but that form is found in Chaucer.

Certain words show their derivation and are more expressive than their commoner forms. To *peaceify* a crying child seems a more maternal operation than simply to pacify it, and *ilement*, to one accustomed in his youth to the old form ile, is certainly a better word than unguent, while *restful* is certainly one of the most pleasing adjectives that can be applied to a surgical apparatus. If the surgeon finds the next day that the injured member has "swoll" during the night and made the patient "unrestful," he will perhaps pardon the poor fellow for *dis*remembering his instructions.

Different classes of men have peculiar forms of speech, drawn often from their habits of life. There are many peculiar expressions among sailors. The colored people always designate pain as "misery," and not unfrequently describe it as "lingering." "The almonds of the ears" is used by some colored people for the tonsils, a natural expression for Germans, as it is but a translation from their native language, but how a colored man should come to use it is not so plain.

It is amusing and even pathetic to hear the attempts of a foreigner, whose English has been picked up in the forecastle or "long shore," and consists principally of oaths, to express intelligibly his ailments. Such a patient will rub his hand over his abdomen and say, "Something bites me here", and in reply to attempts to elucidate the matter will explain by comparing the severity of his pain to the place of future punishment.

There are many curious misunderstandings and mispronunciations. Certain individuals are "caustic" in their bowels, while others with injured feet "gimp" as they walk. "Too regular in the bowels" is an occasional synonym for diarrhœa. One of the most puzzling problems for an ordinary tongue is to express one of a pair of twins. "He 's the one half of a twin," "the half of a pair of twins," are some of the forms of expression used. A complaint often made is

that "the palate is down," which refers to any trouble in the fauces, but most appropriately to a lengthening of the uvula. How to explain the complaint of the woman who said that "the spoon of her breast was down, that the doctor had tried to put it up but could not," remains a mystery. "A flag in the breast" means an induration of any kind. "A chamber-doctor" is an obstetrician. "Whittle" is in common use for whitlow.

A story in a recent newspaper makes a valuable addition to anatomical nomenclature, and illustrates the habit of patients to attribute curious sayings to their doctors. According to the newspaper a man in a little town in Connecticut caught his foot in a mowing machine, and the accident restored to him the power of movement in the ankle-joint, which had been lost forty-six years before, when his foot had been caught under a roller that was in use in moving a barn. "Every one at that time thought he would lose his leg, but after some six months he so far recovered that he was able to walk, going upon the toe of that foot. He consulted a physician, who told him that the heel-pin had been driven up between the bones of the ankle, but advised letting it remain, as breaking it up would cause great pain. It was a bad place to work, and they might not get it right after all. So for forty-six years he has walked with a limp, but it would seem as though that mowing machine wheel had done the business, and brought the heel-pin to its right place."

Undoubtedly many more of these words have histories of their own which individuals learned in the history of the language could retail. Doubtless the new English Dictionary on Historical Principles, by Dr. Murray, now in process of compilation, will throw light upon the use of many of these words and make their study more easy and entertaining.

"The right word is always a power and communicates its definiteness to our action," and the study of the difficulties of the unlearned ought to aid the physician in the use of simple and unambiguous language.

MEDICAL NOTES.

— We are glad to state that at the request of the Board of Trustees of the Massachusetts General Hospital Drs. H. J. Bigelow and R. M. Hodges have withdrawn their resignations from the staff of visiting surgeons.

— The National Board of Health held an annual meeting in Washington, Wednesday, July 30th, and elected the following officers: President, Dr. James L. Cabell, Virginia; Vice-President, Dr. Stephen Smith, New York; Secretary, George E. Waring, Esq., Rhode Island.

— The British Medical Association held its annual meeting at Belfast, Ireland, July 29th to August 1st. The flourishing condition of the Association is shown by the fact that the increase in membership during the last year amounted to 1000, and the number of names now on the roll of the Society is 12,000. Addresses were made by Dr. Waters, the retiring president, and Dr. Cuming, the president elect. Numerous papers were presented in the various sections by distinguished writers.

— The announcement is made that the British Government have appointed a cholera commission consisting of Dr. Klein, F. R. S., and Dr. Heneage Gibbes, who have been directed to proceed forthwith to India to pursue a scientific inquiry into the nature of cholera. It is understood that these gentlemen will act in conjunction with the commission nominated a few weeks ago by the Indian Government for the same object. "In the prosecution of their labors," remarks the *Lancet*, "Drs. Klein and Gibbes may be assured of the hearty good wishes of all Englishmen, and the results of their mission will be awaited with great interest. The government in arriving at this decision have only done that which ought to have been done twelve months ago; and it cannot fail to touch the national pride that the country which has the largest interest in arriving at a sound conclusion upon the nature of this disease should have allowed Germany and France to have preceded it in the research. It is better, however, to be late in the field than to ignore the value of such an inquiry altogether."

— Professor Jäger, of Vienna, the distinguished ophthalmic surgeon, has recently died.

NEW YORK.

— At the suggestion of Dr. Cyrus Edson, of the health department, an ordinance has been passed forbidding the use of vessels made of brass, lead, copper, or other metallic substance in the sale of beer, soda water, syrups, and other beverages or flavoring materials, on account of the danger of the formation of compounds detrimental to health. An investigation into the character of the lining of the soda-water fountains of Brooklyn is at present being made by Health Commissioner Raymond.

— The executive committee of the commission appointed at the recent session of the Legislature to investigate the sanitary condition of the tenement houses of New York commenced the work of inspection during the last week of July. It consists of Drs. Moreau Morris and Abbot Hodgeman, Charles F. Wingate, sanitary engineer, and William P. Esterbrook, superintendent of buildings.

— A public meeting was held in Hoboken on the 27th of July for the purpose of taking some action in securing a better and purer supply of drinking water, which for the past ten years has been obtained from the Hackensack River. Professor Leeds, of the Stevens Institute, who had been employed by the mayor to make an analysis of the water, stated that he had found in it large quantities of vegetable matter, which, while it might not be injurious to health, rendered it objectionable. This accumulation of vegetable matter, he thought, was due to the recent heavy rains, and he expressed the opinion that the evil would not be abated until the reservoir was thoroughly cleaned. This one of the engineers in the employ of the water company promised would be done, and the meeting adjourned

without taking definite action in regard to the matter.

— A conference was held July 30th between Col. Emmons Clark, secretary of the Board of Health, Dr. Day, sanitary superintendent, and Superintendent Walling, of the police department, with a view of adopting a plan of police surveillance over all vessels landing cargoes on the water front of the city, in order to prevent the unloading of infected goods which may have been smuggled through quarantine. It was held in consequence of the discovery that a vessel, which had been passed through quarantine, on the declaration that there were no rags on board, was landing rags at a Brooklyn dock.

— The annual appropriation by the Legislature of $20,000 for the assistance of the worthy blind in New York City has just been distributed. Those who are eligible to the benefits of this fund are men and women who have resided at least two years in the city, who are totally blind, and who have never been inmates of a public institution, and its object is to encourage them to help themselves and keep out of almshouses and asylums.

— From the annual report of the Railroad Commissioners it appears that during the last year twenty-four persons were killed and ninety-one injured by accidents on the street railways. Of the number killed, six were passengers, two were employees, and sixteen were persons in the streets. Of those injured, forty-six were passengers, and forty-five persons in the streets.

— Mollie Lee, who is said to be the only full-blooded Indian squaw of the Shinnecoch tribe now living, is more than a hundred years old, but is in feeble health. She is a resident of the Indian reservation near Southampton, Long Island.

Correspondence.

TREATMENT OF ASIATIC CHOLERA.

MR. EDITOR, — The German commission, of which Dr. Koch was chairman, announce that Asiatic cholera is due to a living bacillus existing in the intestines. It also announced that these bacilli cannot live in the presence of acids. If these views are accepted it would seem that cathartics accompanied with acids are strongly indicated in this disease.

When Dr. George Johnson, of King's College Hospital, London, advocated the castor-oil treatment, in 1855, his views were very generally pronounced fallacious. Now it would seem to be established that his treatment was based upon a pathology very nearly correct. His method was to give the castor oil in doses of an ounce every hour, or thereabouts, till the character of the discharges changed, at the same time not neglecting other treatment. He severely denounced the use of astringents and brandy in such cases because he believed that the intestines contained a "morbific agent" which must be removed.

I once conversed with a gentleman who had passed through a cholera epidemic in Havana, Cuba. He had seen great benefit from the use of large doses of olive oil. This would also be rational treatment in view of the pathology.

Instead of advising the public, therefore, to use brandy and laudanum in this disease, as I see the daily papers doing, a contrary treatment should be urged. We should advise full doses of castor oil or larger doses of the olive oil. At the same time the patient should take an acid in sufficient quantity to overcome for the time being the alkalinity of the intestinal juices. For this purpose vinegar, lemon juice, or, better, the dilute hydrochloric acid might be given.

These views seem to follow logically the announcements of Dr. Koch and his colleagues.

Yours truly, WM. H. LATHROP, M. D.

LOWELL, MASS., *August* 4, 1884.

Miscellany.

THREE DOCTORS IN FICTION.

THE fact that such writers as Mr. Howells, Miss Phelps, and Miss Jewett should within four years so carefully study what is practically the same subject, makes it worth while to compare their stories closely, says the *New York Evening Post*. Passing any question of relative literary merit, and taking them all as widely read and much liked books, there are remarkable points both of likeness and difference between them. In the first place no one of the heroines works for her living. Dr. Breen "was rich enough to have no need of her profession as a means of support." Of Dr. Zay it is said "loftily" by the old lady, "Doctor is quite independent of her practice." Between Dr. Leslie and her aunt, Nan Prince is sure of a fortune. They are all beautiful. Mr. Howells gives us "the tender curve of her cheek, the soft round of her chin." Dr. Zay "was the eidolon of glorious health." "There was a sort of golden halo round Nan's pretty head." In costume and carriage they are all of the choicest. Dr. Breen only studied simplicity, but "she did not finally escape distinction in dress and manner." Dr. Mulbridge "grew more and more conscious of her elegance and style, now that she stood before him." Dr. Zay has almost a superfluity of violet muslin, of skin of seal and leopard; she has "a glorious poise," and moves "with a swift and splendid motion." As Nan walked up the broad aisle of St. Anne's Church "the rows of heads all looked commonplace by contrast. . . . There was something so high and serene in Anna Prince's simplicity and directness." They are further alike that each has had the best special training for her career that the times afforded. That they count two out of three for homœopathy may go for what it is worth.

As to motive, we come to marked differences. Dr. Breen turned to her study in the heart-sick reaction from the treachery of her friend, the faithlessness of her affianced. She is watching her first patient at Jocelyn's. Dr. Zay "always had a taste for science, she inherited it besides." Her father was a physician, but died when she was only fifteen. She has practiced four years in a Maine village. "She don't fall short of three thousand every year of her life," is the assertion. Nan's father, whom she never knew, was also a physician, but it was her constant sympathy, her affectionate admiration for her guardian, the "country doctor,"

which determined the restless longing of her finely endowed nature toward the same career as his own. Either motive is a likely one, but the last is the more natural and more healthful.

Once more a difference, Mr. Howells may not quite have intended it, but his heroine first turns to her lover in the profound dejection of the discovery of failure in herself — her heart, her strength, are not equal to her demand upon them. Dr. Zay's lover gains his advantage when she is physically exhausted with a night of watching and a struggle with delirium tremens. Does this mean that neither would have yielded if she had been strong? Nan stands waiting in all the success of her hope. Yet Miss Jewett has felt obliged to supply even her with another motive than the love of her profession for refusing marriage. Nan believes that inherited tendencies bar her from it. "*Qui s'excuse, s'accuse.*" Does not this amount to an agreement among the three that home and hope of children draw a woman more strongly than anything else can.

Space fails us for the inferences this extended comparison suggests. Supposed cases are not logical arguments: they are only illustrations; but when independent illustrations strikingly agree, it is more than an accidental coincidence. To put the case fully in all its bearings, Dr. Breen should be successful; Nan's lover should be a strong, masterful, yet tenderly sympathetic man. But the great fact remains, no one yet ventures to represent a woman struggling as most men struggle to gain a footing in the professions. No one ventures to present her without the attractions that are distinctly feminine, and the want of which (that is, those that correspond) would be only a temporary hindrance to the man. There is a deep and — considering the future — an almost painful significance in the conviction, put concretely in Dr. Breen's case, implied throughout "Doctor Zay," and stated so plainly and so appealingly by Nan, that the duties of home, as falling upon the wife and mother, are incompatible with the practice of a profession. We believe all experience proves it, and what may seem examples to the contrary are either where the possession of wealth or powers so exceptional as to be outside all rules have smoothed the way, or where the profession has been taken up after the home had been made, its traditions developed, its happiness secured.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 26, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diphtheria and Croup.	Whooping-Cough.
New York	1,340,114	888	480	41.22	11.31	28.22	3.14	1.57
Philadelphia	927,995	417	218	29.04	10.32	20.16	6.72	3.36
Brooklyn	644,526	377	207	43.74	9.53	24.83	1.35	3.78
Chicago	632,100	382	261	44.20	4.16	33.80	2.86	.78
Boston	423,800	213	143	37.35	5.85	30.15	.90	3.60
Baltimore	408,520	190	108	43.99	10.60	34.45	3.18	3.18
St. Louis	400,000	180	97	23.65	8.27	14.30	1.66	—
Cincinnati	272,400	118	44	22.95	12.75	14.45	1.70	1.70
New Orleans	234,000	145	46	30.10	11.90	14.70	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	102	44	24.50	17.64	22.54	.98	—
Pittsburg	180,000	85	56	42.48	5.90	15.34	3.54	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	53	33	52.92	9.45	47.25	1.89	3.78
New Haven	62,882	39	22	30.72	5.12	30.72	—	—
Nashville	54,400	30	11	43.33	13.33	23.33	3.33	—
Charleston	52,286	42	20	28.56	13.28	21.42	—	—
Lowell	71,447	34	21	49.98	5.88	44.10	—	—
Worcester	69,442	25	12	32.00	16.00	28.00	4.00	—
Fall River	62,674	51	41	64.68	—	60.76	—	—
Cambridge	60,995	24	7	12.48	20.80	4.16	4.16	4.16
Lawrence	45,516	15	6	33.33	13.33	25.55	—	—
Lynn	44,895	14	5	7.14	28.56	—	—	7.14
Springfield	38,090	21	11	57.52	9.52	47.60	9 52	—
Somerville	31,350	7	6	85.68	28.56	28.56	—	43.84
Holyoke	30,515	10	5	10.00	30.00	10.00	—	—
New Bedford	30,144	9	5	22.22	22.22	22.22	—	—
Salem	29,503	11	—	27.27	18.18	18.18	—	—
Chelsea	24,347	12	4	16.66	16.66	16.66	—	—
Taunton	22,693	6	2	16.66	16.66	—	—	—
Gloucester	21,400	6	2	66.66	66.66	50.00	—	—
Haverhill	20,905	11	6	36.36	36.36	27.27	—	—
Newton	19,421	6	1	16 66	16.66	16.66	—	—
Brockton	18,323	10	5	10.00	10.00	10.00	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	10	4	30.00	—	20.00	—	10.00
Fitchburg	13,433	3	1	33.33	33.33	33.33	—	—
Ninety-two Massachusetts towns	—	114	72	—	—	—	—	—

Deaths reported 3660 (no reports from Buffalo and Milwaukee): under five years of age, 2006; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases), 1333, diarrhœal diseases 986, consumption 357, lung diseases 164, diphtheria and croup 86, whooping-cough 61, measles 51, scarlet

fever 39, typhoid fever 36, malarial fevers 42, cerebro-spinal meningitis 15, erysipelas seven, small-pox five, puerperal fever four, yellow fever one. From *measles*, New York 33, Chicago 12, Brooklyn and New Orleans, two each, Philadelphia and St. Louis one each. From *scarlet fever*, New York 10, Philadelphia, Chicago, and Boston six each, St. Louis three, Cincinnati and Pittsburg two each, Lawrence, Somerville, Salem, and Gloucester one each. From *typhoid fever*, New York 10, Baltimore, Cincinnati, and New Orleans four each, Chicago and Nashville three each, Philadelphia, Brooklyn, and St. Louis two each, District of Columbia and Charleston one each. From *malarial fevers*, New York 11, New Orleans 10, Brooklyn and St. Louis eight each, Baltimore and Charleston two each, Nashville one. From *cerebro-spinal meningitis*, New York five, Chicago three, Lowell and Fall River two each, Philadelphia, Nashville, and Haverhill one each. From *erysipelas*, New York five, Philadelphia two. From *small-pox*, New Orleans five. From *puerperal fever*, Brooklyn and Chicago two each. From *yellow fever*, New Orleans one.

Cases reported in Boston: scarlet fever 53, diphtheria 14, typhoid fever 14, and measles one.

In 112 cities and towns of Massachusetts the total death-rate for the week was 21.54 against 17.68 and 15.35 for the previous two weeks.

For the week ending July 5th in 170 German cities and towns, with an estimated population of 8,753,688, the death-rate was 29.1. Deaths reported 4902; under five years of age 2734 consumption 613, lung diseases 498, diarrhœal diseases 354; diphtheria and croup 147, whooping-cough 64, measles and rötheln 57, scarlet fever 51, typhoid fever 41, puerperal fever 15, small-pox (Metz two, Dresden one) three. The death-rates ranged from 15.1 in Rostock to 44.9 in Aachen; Königsberg 29.4; Breslau 36; Munich 32.1; Dresden 31.2; Berlin 32.7; Leipzig 25.6; Hamburg 29; Cologne 35.7; Frankfort a. M. 30.9; Strasburg 27.7.

In the 28 greater towns of England and Wales, with an estimated population of 8,620,975, for the week ending July 14th, the death-rate was 22.2. Deaths reported 3726: acute diseases of the respiratory organs (London) 206, diarrhœal diseases 495, whooping-cough 103, measles 102, scarlet fever 71, fevers 51, diphtheria 22, small-pox (London 21, Liverpool six, Sunderland two, Sheffield, Hull, and Cardiff one each) 32. The death-rates ranged from 11.1 in Plymouth to 25.9 in Halifax; Birmingham 18; Bradford 21.4; Leeds 23; Leicester 20.4; Liverpool 24.9; London 24; Manchester 23.3; Nottingham 25.2; Sheffield 18.2; Wolverhampton 20. In Edinburgh 16.5; Glasgow 23.1; Dublin 22.3.

For the week ending July 12th, in the Swiss towns, there were 36 deaths from consumption, diarrhœal diseases 26, lung diseases 16, typhoid fever nine, diphtheria and croup five, scarlet fever two, whooping-cough one, erysipelas one, puerperal fever one. The death-rates were, at Geneva 15.3; Zurich 15.8; Basle 11.6; Berne 23.3.

The meteorological record for the week ending July 26th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
July, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 20	29.768	65	75	57	69	39	70	60	NW	W	W	10	17	9	C	C	C	—	—
Mon., 21	29.799	63	70	54	68	53	80	67	W	W	SW	11	14	4	C	F	C	—	—
Tues., 22	29.847	70	80	57	66	50	78	65	W	W	W	12	15	6	C	C	C	—	—
Wed., 23	29.803	75	89	63	70	48	92	70	W	SW	SW	3	9	16	C	F	O	—	—
Thurs., 24	29.792	77	85	67	76	44	59	60	W	NW	NW	12	12	4	C	C	O	—	—
Fri., 25	29.890	70	81	65	81	60	73	71	N	SW	NW	3	8	4	R	F	C	—	—
Sat., 26	30.007	63	69	56	66	74	92	77	NE	SE	SE	6	10	5	C	C	C	—	—
Mean, the Week.	29.824	69.0	78.4	60.0				67.1										6.34	0.07

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY FROM JULY 26, 1884, TO AUGUST 1, 1884.

HEAD, JNO. F., colonel and surgeon. Ordered to Portsmouth, N. H., to meet the Greeley party, and consult upon the proper course of treatment, with a view to the entire restoration to health of Lieutenant Greeley and the men of his command. S. O. 177, paragraph 14, A. G. O., July 30, 1884.

WRIGHT, JOSEPH P., major and surgeon. Sick leave of absence extended three months on surgeon's certificate of disability. By paragraph 12, S. O. 176, A. G. O., July 29, 1884.

MCELDERRY, HENRY, captain and assistant surgeon. So much of paragraph 12, S. O. 165, A. G. O., July 16, 1884, as assigned him to duty in Department of the East is revoked, and he is ordered to report in person to the Surgeon-General of the Army for duty in connection with World's Industrial and Cotton Centennial Exposition at New Orleans, La. Paragraph 12, S. O. 173, A. G. O., July 25, 1884.

FINLEY, J. A., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for one month's extension, to take effect about September 1, 1884. Paragraph 2, S. O. 91, headquarters Department of Texas, July 22, 1884.

REED, WALTER, captain and assistant surgeon. Relieved from duty at Fort Sidney, Neb., and ordered for duty as post surgeon, Fort Robinson, Neb., relieving Assistant Surgeon Henry McElderry, U. S. A. Paragraph 2, S. O. 62, headquarters Department of Platte, July 22, 1884.

NEW ENGLAND METEOROLOGICAL SOCIETY.

THE Council of the New England Meteorological Society desires to secure the coöperation of all persons in New England interested in its subjects of investigation, with the purpose of encouraging the observational study of meteorology and of uniting into a common plan the labors of those who make a practice of keeping records of the weather. The Council proposes at the outset to establish a simple system of observations under the direction of Prof. Winslow Upton, of Brown University, including for the present only records of rainfall and temperature range: other subjects may be added in the future, but it is thought advisable to attempt nothing more in the beginning than can be properly discussed and published. Among those who have already signified their willingness to join the Society's undertaking physicians form a considerable number; from their technical training and habits of close observation they will make members of especial value, and the Council therefore hopes to enlist among its observers all who have already kept weather records or who are willing to undertake such records under its auspices. A circular giving the plans of the Society in more detail may be obtained by addressing W. M. Davis, Secretary, Cambridge, Mass.

DIED. — At Jamaica Plain, August 1, 1884, Benjamin Franklin Wing, M. D., M. M. S. S., aged seventy-nine years.

Original Articles.

MEDICAL DELUSIONS.[1]

BY ALBERT DAY, M. D.

The wonderful influence of imagination in the cure of disease is well known, and it has become a fruitful resort for all kinds of vile quackery and blasphemous pretentions. A motion of the hand or a glance of the eye will throw a weak and credulous patient into a fit, and a pill made of bread, if taken with sufficient faith, will operate a cure better than all the drugs in the Pharmacopœia. It is related by a medical historian that the Prince of Orange, at the siege of Breda, in 1625, cured all his soldiers who were dying of the scurvy by a philanthropic piece of quackery which he played upon them, with the knowledge of the physicians, when all other means had failed. The prince sent the physicians two or three small phials containing a decoction of camomile, wormwood, and camphor, telling them to pretend it was a medicine of the greatest value and extremest rarity, which had been procured with very much danger and difficulty from the East, and so strong that two or three drops to a gallon of water would impart a healing virtue. The soldiers had faith in their commander; they took the medicine with cheerful faces, and grew well rapidly. They afterwards thronged about the prince in groups of twenty and thirty at a time praising his skill, and loading him with protestations of gratitude. Many thousand of instances of a similar kind might be related, especially from the history of witchcraft, and even in our own time we see the work of religious pretenders as exhibited by the blasphemous shows at the gatherings at Old Orchard and other places annually. Such scenes are a disgrace in this age while they could be tolerated in the times of universal ignorance, before the laws of psychiatry and kindred sciences were developed. A few centuries ago the mummeries, strange gesticulations, and barbarous jargons of witches and sorcerers, which frightened the credulous and nervous woman, brought on all those symptoms of hysteria and other similar diseases so well understood now, but then supposed to be the work of the devil not only by the victims and the public in general, but by the operators themselves.

In reading the history of nations we find, like individuals, they have their whims and their peculiarities, — the seasons of excitement and recklessness, when they care not what they do. We find that whole communities suddenly fix their minds upon one object, and go mad in its pursuit; that millions of people become simultaneously impressed with one delusion, and run after it until their attention is caught by some new folly more captivating than the first. We see one nation suddenly seized, from its highest to its lowest members, with a fierce desire for military glory, another as suddenly becoming crazed upon religious scruples, and neither of them recovering their senses until the craze has shed rivers of blood and sowed a harvest of groans and tears to be reaped by its posterity. At an early age in the annals of Europe its population lost their wits about the sepulchre of Jesus, and crowded in frenzied multitudes to the Holy Land; another age went mad for fear of the devil, and offered up hundreds of thousands of victims to the delusion of witchcraft.

It is my purpose, however, to deal with medical delusions chiefly of the past and present, although I can but speak briefly upon this topic, for volumes would be required to record all these delusions with all the crimes and follies they have entailed upon our race. I will not go back to the ages of demonology, when all disease was considered the work of demons (and this delusion is still believed to an extent shameful to the present enlightened age), but will briefly recite the history of a few medical delusions over which people have gone mad within the last century or two, dwelling especially upon that of the Perkins tractors.

It is not a century since the Perkins delusion with its metallic tractors turned the heads of many wise and good people. Dr. Elisha Perkins, of Plainfield, Connecticut, invented his tractors (an identical set of which I now exhibit before you), and began a practice with them about the year 1796. One part is composed of steel, and the other seems to be of brass or some metallic compound. The operation consisted in uniting the large ends and then drawing the sharp points over the diseased parts, no incision being made. This being done several times completed the operation.

I hold in my hand a book containing the letters received by Dr. Perkins, giving the wonderful cures which had been performed by the metallic points. The persons giving these certificates were clergymen, physicians, and other distinguished persons. Some of these certificates are evidently false, and therefore the persons writing them did so under the most positive delusions.

EXTRACTS FROM LETTERS TO THE AUTHOR OF THE METALLIC DISCOVERY.

Pierpont Edwards, Esq., District Attorney for the State of Connecticut.

New Haven, *October* 7, 1796.

Dear Sir, — I should have written you last week, had I then been able to ascertain certain facts, the rumour of which I had heard. A Mrs. Beers, a near neighbor to me, the wife of Eber Beers, and daughter of Capt. Samuel Huggins, of this town, had been, for fourteen weeks, exceedingly distressed with the rheumatism, to such a degree, that for fourteen weeks previous to the 29th of last month, she had not been able to walk across her room even with the crutches, save only once, when she made out, with the assistance of crutches, to hobble part of the way across her room. On the 29th of September last, she procured a set of your Metallic Substances, and in less than an hour after she had begun to use them, in the manner directed by you, she rose from her chair, and walked about the house, and on the next day she went abroad to her neighbors, having thrown aside her crutches. I have this day paid her a visit, in company with her father, and Timothy Jones, Esq. who lives in the street where she resides and directly opposite to her residence, and with Captain Abel Burrett, who is her next neighbor, and lives within eight yards of her door. I requested her to relate her case over in their presence, which she did, and these gentlemen all, with one voice, supported from their own knowledge, her story. It is a duty which you owe yourself and the world to promulge this event.

I am respectfully, your most obedient servant,

Pierpont Edwards.

N. B. She says her fever has left her, her appetite has returned, and she is in a fair way to be restored to perfect health.

James Glover, Esq., Norwich, County of Tioga, State of New York.

September 19, 1796.

Sir, — Having lately purchased a set of your patent instruments to keep in my family, I have used them with great success on a person scalded with boiling lie: a man by the name of Welch, who was at work in my potash, when boiling down the lie, some of it flew into one of his eyes, which soon became very

[1] Read before the Suffolk County Medical Society, April 26, 1884.

much inflamed, and swelled to such a degree, that he could not open it, and remained in that situation, for the space of three days, when after a few minutes operating with your patent instruments, he was able to open it, and with two operations only, his eye was almost entirely free from pain and inflammation, and in a short time was perfectly well, although so badly scalded, he had almost despaired of its ever recovering.

JAMES GLOVER.

Mr. Samuel Satterlee.

WILLIAMSTOWN, *November* 3, 1796.

Sir, — I was called on in the evening, by a gentleman with a cancer on his lips, which caused a severe inflammation in every part of his face; I furnished him with a set of your Metallic Instruments, until the morning following, when he returned so enraptured with their effects, that he readily purchased a set.

I am &c. SAMUEL SATTERLEE.

Mr. John Punchard.

SALEM, *October* 19, 1796.

Sir, — I have operated repeatedly with your Metallic Points and have succeeded in removing rheumatic pains, agues, pains in the head, face, side and burns to my astonishment, and to the astonishment of all present. I cured a man burnt with powder, in less than half an hour, with the Points, without any other application. JOHN PUNCHARD.

Bezaleel Woodward, Esq., Professor of Philosophy and Mathematics, Dartmouth College.

HANOVER, NEW HAMPSHIRE, *September* 19, 1796.

Sir, — I have made use of your pointed Metallic Instruments in various disorders, and besides universally abating and generally removing pains in the head, face, teeth, &c., by application of them, I have found them useful in the salt rheum. Only one opportunity has presented for an effectual trial — that has cured the patient by three applications, which being noised abroad, sundry persons affected with that disorder, have been at my house this week, to have the operation performed on them; and the disorder has abated on the first application, so that the present prospect is, that cures will be effected for them, by further use of the Instruments. A violent pain proceeding from a sprain in the foot, has, by a few minutes application of the Instruments, been removed so as not to return.

I have the honor to be, Sir, your most obedient and humble servant, BEZALEEL WOODWARD.

Gen. Elihu Marvin, Member of the Connecticut Medical Society.

NORWICH, *December* 20, 1796.

Sir, — Since I have been in the use of your patent Metallic Points, which is about four months, I have, by way of experiment, made use of them in cases of inflammations of almost every kind, and in subjects, of all ages and descriptions, and as might be expected, with various success. One fact, however, I am fully convinced of (in opposition to former prejudices), viz. That in a variety of circumstances, a proper application of them is capable of operating a change in the human frame, which I can no more doubt, because I cannot assign a satisfactory philosophical reason therefor, than I can doubt the operation of opium, because, the properties of that gum, by which, and the modus operandi, in which it produces sleep, are to me wholly unknown. I am confident reasoning a priori, would as soon establish one fact as the other. Cases in which the points have, in my practice, appeared successful, are such as burns, headaches, agues in the face, ophthalmics, pains in the limbs, breast, and sides, and in cynanche tonsillaris, yet candor requires I should say, success in these cases has not been universal.

One case of cynanche tonsillaris, or common inflammatory quinsey, I will relate to you: — I visited a young man late in the afternoon, found him exercised with all the usual symptoms of that disease; such as general inflammatory diathesis, the tonsils so tumefied as to be nearly closed together. His throat and neck externally enlarged, a constant discharge by spitting a glairy mucus, and complaining of excessive pain in the parts: by his account, these symptoms had been increasing for about three or four days. His mother informed me that he had not swallowed anything for thirty-six hours, except three or four spoonsful of water, in which toasted bread had been soaked. I could not learn that any means had been used for his relief, except keeping within-doors, and making some external applications. I applied the Metallic Points externally in the usual way; very soon the spitting sensibly decreased. After some time, he observed the pain was wholly gone on one side, and much lessened on the other. I then directed him to make trial how he could swallow; he took a tumbler of sweetened water, and drank it with little difficulty, and immediately ate about half a pint of custard. I then left him, with directions to repeat the operations occasionally; and, in the intervals, to keep the throat covered with some emollient poultice. On visiting him the next day, I found him sitting at the fire, roasting oysters, and eating them without difficulty; he observed he was well. I made every enquiry, to discover whether the swelling had not burst, but could not learn anything from him which gave the least reason to think it had. I left him a dose of purgative pills, which he swallowed without pain, and in a few days regained his usual health.

One case of pain in the side, occasioned by the patient, while unwell, being exposed to a cold, damp atmosphere, attended with great interruption of locomotion and difficult respiration, was completely relieved by a few minutes' application of the Points. With every sentiment of esteem, I remain your sincere friend, ELIHU MARVIN.

Dr. Samuel Willard, Member of the Connecticut Medical Society.

STAFFORD, *August* 6, 1796.

Since I returned to Stafford, I have made trial with your Metallic Instruments with very happy success, in a case of acute rheumatism, which had, for a long time, baffled all the remedies to which I myself and two or three other physicians had advised.

The wart which I burned down when at your house, gave me no trouble as to any sensation of fire, after you operated on the inflamed part; I felt a soreness for several days after, but the soreness was no greater than would have arisen from the destruction of so much skin from any other cause. It argues great folly to condemn any innovations, or new improvements in the arts and sciences, without due investigation. This is a kind of treatment, however, which you have already experienced, and which you must expect still to experience.

I am &c. SAMUEL WILLARD.

John Vaughan, M. D., State of Delaware.

CHRISTIANA, *July* 14, 1796.

Dear Sir, — I have operated in a few cases only, with your instruments, for but few have offered since I possessed them. One case of nervous or hysteric headache, perfectly cured — a case of odontalgia relieved. The third a young man, who had fallen ten or fifteen feet on the edge of an open ended hogshead, and received a considerable contusion in the umbilical region, with tumefaction. I bled him three times to little purpose. But after about two minutes operation with the instruments, he exclaimed in extasy, "I am well — I am well — my pain is gone." The pain, however, returned in a less degree, but in thirty or forty minutes went off entirely, and he went to work as usual.

I am &c. JOHN VAUGHAN.

Rev. Dr. Morse, of Charlestown.

December 9, 1796.

Dear Sir, — I have made a faithful trial of your patent Metallic Points in a number of cases — such as burns, pains in the head, teeth, face, ears, side, back and limbs, arising from colds, and in one or two instances rheumatic pains have been relieved by them; and in one instance the painful effects of the sting of a wasp were entirely removed. In some cases I have been unsuccessful, particularly in a burn, where[1] oil had been previously applied, and in the tooth-ache, where the teeth were[2] very defective. On the whole, I believe the discovery to be a very useful one; I wish it cordially all imaginable success.

I am &c. JEDEDIAH MORSE.

Rev. Walter King.

NORWICH, *October* 6, 1796.

Sir, — The fame and utility of your patent instruments have become subjects of so much notoriety and speculation, that almost all pained people are desirous of making trial of them. Their efficacy within my knowledge, appears to be increasing. I am more and more confirmed in the benefit of the discovery, and cannot think but they will continue as long as the pains of the human body shall need them.

I am &c. WALTER KING.

[1] In the transfer of the patent right, one of which accompanies each set of instruments, are specified, the several differences in which this treatment is useful — the mode of operation and the circumstances which prevent the general effects. It is there observed — "The efficacy of the means is prevented by all oily and greasy substances."

[2] It may not be reasonably presumed, that a cure could be made on teeth which were very defective.

Rev. Dr. Robbins, of Plymouth.

September 24, 1796.

Dear Sir, — Several persons, since you left us, have experienced immediate relief, in various complaints, by the Metallic Points.

I operated, day before yesterday, on a man's hand, which was prodigiously swelled and painful, by a wound he received on the back of it, which he neglected and got cold in. It was much inflamed; but was relieved by that single operation. The swelling subsided, and the inflamation went away, so that he went directly to work on board his vessel. He told me the last night it gave him no trouble. I am &c.

CHANDLER ROBBINS.

Rev. Dr. Stillman, of Boston.

October 6, 1796.

Dear Sir, — I feel myself much obliged to you for the important service you have rendered to Mrs. Stillman's eyes, after a distressing inflammation of eight months. If, through too much exercise, or being exposed to very cold air, a degree of inflammation returns, it is removed in a few minutes again, by the application of your points. I have in my walks among the sick, made use of them repeatedly with success; and cannot but think they will be of important benefit to mankind.

I am &c. SAMUEL STILLMAN.

Rev. Mr. Balch.

GEORGETOWN, *May* 16, 1797.

Dear Sir, — A neighbor of mine, Mr. James Connor, was sorely afflicted with an inflammation in his left eye, and a pain in his head. His eye appeared like a ball of blood, and all the contiguous parts were much inflamed, and of a bloody color. I saw your Metallic Points applied to the affected part with such success, that, in the space of about ten minutes, he declared the pains were gone — he has told me since, he never felt any inconvenience from it afterwards.

Several of my neighbors who have been afflicted with pains, have testified in favor of your tractors.

That you may succeed in promoting the happiness of the human race, is the wish of,

Sir, your humble servant, STEPHEN B. BALCH.

CERTIFICATES.

Capt. William Ladd.

I hereby certify, that for twelve or fourteen years past, I have been frequently exercised with severe paroxysms of the Gout. In the fall of 1795, I had a violent attack of this disorder, which had confined me to my room for six or eight days. At this time, when my foot was very much swelled, inflamed, and in such extreme pain, especially my great toe, that I could not walk nor set my foot on the floor, Doctor Hopkins called on me, and operated on my foot, with an instrument, as he said, according to Dr. Perkins' directions. Within five minutes the pain and inflamation ceased, so that I walked with ease. The swelling, within twenty-four hours, subsided so that I put on my shoe; and this foot, in two days became as well as the other. The pain has twice returned since, but has been soon removed by the same application. WILLIAM LADD.

Rev. Samuel Hopkins, D. D., Newport, R. I.

NEWPORT, *August* 17, 1796.

I the subscriber, hereby certify, that I performed the operation on the foot of Capt. William Ladd, which is by him above related, and am witness to his being relieved and cured by said operation. I have had credible information of other persons being cured of pains by the same means in this town.

SAMUEL HOPKINS.

Rev. William Patten.

The subscriber is a witness to the cure of Capt. Ladd as above related, and has reason to believe that in various other instances, persons in this place have been relieved, by the same application, from pains in the head, eyes, &c.

WILLIAM PATTEN.

NEWPORT, *August* 17, 1796.

Mr. Constant Freeman, Master of the Almshouse, Boston.

This certifies, that Docter Elisha Perkins, of Plainfield, Connecticut, visited the poor house of this metropolis, about three weeks ago, and performed operations on several patients, with his celebrated Metallic Points; among whom he performed his operation on one John Patterson; he had been in the poor house for six months, with the rheumatism — Two months of which he was confined to his bed — four months he had hobbled about with crutches, when Docter Perkins performed the operation; since which, he has thrown aside his crutches, and walks only with a staff, which he uses, not for the rheumatism, for he has none, but merely for a support, as his thigh bone was then and still remains dislocated.

Nancy Blake was also cured by the Doctor of the rheumatism in the small of her back, which had constantly afflicted her for more than three years. It has not yet returned. I myself cured Benjamin Ross of the rheumatism in the small of the back and hip. This was ten days ago; it has not yet returned.

Lewis Dumeth, a Frenchman, was operated upon by the docter, for the rheumatism in his lower extremities, which had confined him to his bed and crutches for months; but no sooner was he operated upon, than he threw aside his crutches — walked about the house — has walked about the town since, and has had no return of the rheumatism in either leg.

CONSTANT FREEMAN.

BOSTON, *October* 5, 1796.

Mr. Edward Hill.

I Edward Hill of Dorchester, in the County of Norfolk and State of Massachusetts, hereby certify that I have been afflicted with the rheumatism and gout at times, for nine years past, and at length to such a degree as to be unable to walk. But upon the application of Dr. Perkins' Patent Metallic Instruments, I was in the course of two days, so recovered as to be able to walk without any pain. EDWARD HILL.

Perkins also invented a medicine, an antiseptic, and, being anxious to try it in yellow fever, he went to New York in 1799, where then the disease was prevalent, and after four weeks of unremitting toil he himself died of the fever.

About the time of the popular excitement occasioned by the wonderful cures by the "tractors," Dr. Benjamin Douglas Perkins, son of Elisha, went to England, the wonderful cures by the magnetic tractors having preceded him. He settled in Leicester Square, London, where he proposed to make good the fame of his father. He then took out a patent for the wonderful "tractors." The most wonderful stories soon obtained general circulation, and the press groaned with pamphlets all vaunting the curative effects of the metallic tractors, which were sold at five guineas the pair. Perkins gained money rapidly; gouty subjects forgot their pains in the presence of this new remedy; the rheumatism fled at its approach, and toothache, which is often cured by the mere sight of a dentist, vanished before Perkins and his marvelous steel-plates.

The benevolent Society of Friends, of whose body he was a member, warmly patronized the invention. Desirous that the poor, who could not afford to pay Perkins five guineas, or even five shillings, for his tractors, should also share in the benefits of that sublime discovery, they subscribed a large sum and built a hospital, called the "Perkinean Institution," in which all comers might be magnetized free of cost. In the course of a few months they were in general use, and their lucky inventor in possession of five thousand pounds.

Dr. Haygarth, an eminent physician of Bath, recollecting the influence of imagination in the cure of disease, hit upon an expedient to try the real value of the "tractors." Perkins' cures were too well established to be doubted, and Dr. Haygarth, without gainsaying them, quietly, but in the face of numerous witnesses, exposed the delusion under which the people labored with respect to the curative medium. He suggested to Dr. Falconer that they should make wooden tractors, paint them to resemble the steel ones, and see if

the very same effects would not be produced. Five patients were chosen from the hospital in Bath upon whom to operate; four of them suffered severely from chronic rheumatism in the knee, ankle, wrist, and hip, and the fifth had been afflicted for several months with gout. On the day appointed for the experiments Dr. Haygarth and his friends assembled at the hospital and with much solemnity brought forth the fictitious tractors; four out of five patients said their pains were immediately relieved, and three of them said they were not only relieved but very much benefited; one felt his knee warmer, and said he could walk across the room; he tried and succeeded, although on a previous day he had not been able to stir; the gouty man felt his pains diminish rapidly, and was quite easy for nine hours, until he went to bed, when the twitching began again. On the following day the real tractors were applied to all the patients, when they described their symptoms in nearly the same terms. The same experiment was tried in other hospitals with the same results.

An account of these matters was published by Dr. Haygarth in a small volume entitled, Of the Imagination, as a Cause and Cure of Disorders, exemplified by Fictitious Tractors.

The friends of Perkins were unwilling to confess they had been deceived. They found at last that no one believed in them. The Perkinean Institution fell into neglect, and Perkins made his exit from England carrying with him about ten thousand pounds to soothe his declining years in the good city of Philadelphia.

Thus, for the time, magnetism was laughed out of England. It would seem that the Medical Society of Connecticut was purely orthodox, medically speaking, for we find on the records of the Society the following declaration made, at an adjourned convention of the Medical Society of the State of Connecticut, holden at Hartford on the 17th day of May, 1796: —

Voted, It having been represented to this Society that one of their members had gleaned up from the miserable remains of animal magnetism a practice consisting of stroking with pointed metalic instruments, the pained parts of human bodies; giving out that such stroking will radically cure the most obstinate pains to which our frame is incident — causing false reports to be propagated, of the effects of such stroking, especially when they have been performed on some public occasion, and on men of distinction also, that an excursion has been made abroad, and a patent obtained from under the authority of the United States, to aid such delusive quackery, that under such auspices as membership of this Society, and patent above mentioned, the delusion is progressing to the Southward which may occasion disgrace to this Society and mischief abroad; wherefore this Society announce to the public, that they consider all such practices as barefaced imposition, disgraceful to the faculty and delusive to the ignorant; They therefore direct their Secretary to cite any member of this Society, practicing as above, before them at their next meeting, to answer for his conduct, and render reasons why he should not be expelled from the Society for such disgraceful practices.

At a subsequent meeting the following vote was passed: —

Whereas Dr. Elisha Perkins, a member of this Society, having obtained a patent from under the authority of the United States for the exclusive privilege of using and vending certain pointed Metallic Instruments, pretending they were an invention of his own; and also, that they possess inherent powers of curing many diseases which is contrary to rules and regulations adopted by this Society interdicting their members the use of nostrums, Therefore

Voted, That the said Elisha Perkins be expelled from the Medical Society of the State of Connecticut.

This delusion was practiced in a generation not remote from the present. What is called magnetism has in ages past been a stronghold for quacks, and is to this day among certain classes. We hear men and women "*rubbers*" boasting of their magnetism, and even advertising themselves as doctors with special powers and gifts for healing. Of late these delusions have taken a new form, and even now we have Faith Schools in our midst. They blasphemously take the name of religion, and practice their impositions upon the weak-minded and gullible public. They pretend to be but little lower, if not a little above, angels, and contract with the Almighty for the healing of diseases. In these times we behold a ray of light. Science is coming forth in shining garments, with her hands unstained with human blood; when she shines in full effulgence these imps will hide in the dark recesses as the owls and bats do at noonday.

Did time permit, it would afford me pleasure to give a more full history of the magnetizers, whose feats have been regarded by the populace as *wonderful*, and so they are to one who cannot or does not understand the laws of mind.

One who understands psychological law can well comprehend why it is that a sick person who has little or no power to resist impressions from surroundings can be made to feel better or worse, when the bedside is surrounded by the praying band, who offer up one after another earnest prayers with certain gesticulations well known to the fraternity. The laws of psychiatry now explain the wonders of mental phenomena which were once attributed to supernatural agencies. The merest tyro now understands various phenomena which the wisest of old could not fathom.

The school-boy knows why, upon high mountains, there shouldon certain occasions appear three or four suns in the firmament at once, and why the figure of a traveler upon an eminence should be reproduced of gigantic stature upon another. We all know the strange pranks which imagination can play in certain diseases; that the hypochondriac can see visions and spectres; and there have been numerous cases in which men were perfectly persuaded that they were *tea-pots*, and I have cases under my care frequently who think they are somebody other than themselves. One thought he was his mother, another thought he was his horse, etc., etc. Science is lifting up the veil and rolling away all the fantastic horrors in which our forefathers shrouded these and similar cases. The man who now imagines himself a wolf, a dog, or a horse, or his mother, is sent to the hospital instead of to the stake, as in the days of the witch and devil mania; the earth, air, and sea are no more peopled by the grotesque spirits that were once believed to haunt them. It seems to me the duty of every physician to deal honestly with his patients, and, as far as possible, to remove these delusions from the public mind; when this is done our insane asylums and mad-houses will be less full, and mankind will understand better how to handle nature's laws, and use them not for a curse, but for a blessing.

— The model "grateful patient" is the London art dealer, Mr. King, who at his death left half a million dollars to St. George's Hospital, and more than half a million dollars to his medical adviser, Dr. Roper.

THE PITCH OF THE PERCUSSION SOUND.[1]

BY LEONARD HUNTRESS, JR., M. D., OF LOWELL.

In this paper I shall not have time to dwell long on the subject of pitch in general, as I wish to confine my observations to two special matters which seem to me of interest.

The pitch of the percussion sound has been regarded as of little consequence until lately, and I do not think that sufficient prominence is given it to-day, except by a few writers. Auenbrugger barely alludes to the pitch of the percussion sound. Neither Laennec nor Piorry mention it. Locher pronounces it chimerical. Skoda considers the variations in pitch as of little practical value, although he admits that "it occasionally happens that the presence of tubercles in the upper part of the lung may be diagnosticated by the different pitch of the percussion sound over the corresponding part of the other lung."

American and English writers lay no special emphasis on the importance of the pitch. French writers generally slight the subject, although Woillez considers it of more importance than the intensity or the quality of the sound. He says: "I place the pitch at the head of the important characteristics of the percussion sound." And again: "If up to the present time its importance has not been understood, it is because it has not been studied apart from its intensity."

Niemeyer expresses himself thus: "Although formerly this distinction (between high and low pitch) was treated in such a neglectful (stiefmutterlich) manner, it is of much use to modern workers in percussion."

Stern says: "To-day men of training are better fitted to distinguish differences of pitch than differences of sonorousness and intensity, and therefore it is evident that many medical investigators of abnormalities of sonorousness and intensity really perceive only the change of pitch."

The four elements of the percussion sound which should be studied with reference to diagnosis are quality, pitch, intensity, and duration. I know that this is an unusual classification, but I am sure that it is the correct one. I have found it in but one of all the writers I have studied on this subject. Some writers recognize only intensity and quality as elements of the sound; others add to these two a third, pitch. Seitz alone considers the duration of the sound of sufficient importance to classify it as a distinct element.

The duration is not to be confounded with the pitch of the sound. The latter depends upon the number of sound-waves which strike the tympanum of the ear in a given time. The former depends on the length of time these waves continue to strike upon the tympanum, and of course can be considered only when the sound is produced by a stroke or blow, and not where the sound is caused by a continuedly applied force, as in wind and string instruments. The duration of the sound depends in part, to be sure, on the pitch, a high-pitched sound being, *cæteris paribus*, of shorter duration than a low one. Two sounds of the same pitch may, however, differ greatly in duration, as in the case of the long-vibrating peal of the church bell as compared with the short beat of the drum, even though the pitch be alike in both cases.

[1] Read before the Massachusetts Medical Society, June 11, 1884, and recommended for publication by the Society.

The conditions, other than the pitch, which influence the duration of the sound refer in part to the substance of the body percussed, the duration being in direct proportion to the elasticity and homogeneousness of this body. The medium surrounding the body percussed also affects the duration of the sound. Strike a bell suspended in the air gently, and note the duration of the vibration. Now immerse the bell in water and strike it more forcibly, so that the intensity of the two sounds shall be equal, and see how much sooner the vibrations cease. A third factor is the movability of the point or points of support by which the body percussed is held in place. The duration is directly proportional to the movability of this point. So *one* reason for the long-continued vibration of the church bell is the fact that it hangs suspended in the air, with nothing but its weight to prevent it from swinging with every breeze.

I would urge upon instructors in physical diagnosis the importance of teaching duration as well as pitch, as an essential element of the percussion sound.

Of the three commonly recognized elements of the percussion sound, quality, pitch, and intensity, I admit that in many cases the quality may be the most important and significant, and differences in quality in two sounds may be so marked as to be more easily distinguished than the difference in pitch or intensity. I think it, however, no more than fair to claim that as between the two latter the pitch of the percussion sound is of more aid to us in diagnosis than the intensity.

If, for example, you are comparing the two sides of the chest, it is impossible to percuss them with equal force. Even if it were possible, no one could be sure from which side the louder sound is elicited. The force of the percussion stroke affects the pitch comparatively little. The difference in pitch is something that any one with (I will not say a musical ear, for happily our ears are all with few exceptions musical) an ordinary ear can distinguish. Let any one strike a note on a piano twice in quick succession, the first time somewhat more forcibly than the second, in the hearing of a company of unselected persons, and there will probably be by no means a unanimity of opinion in regard to the intensity of the note. Let him now strike two different notes, and probably the listeners can all distinguish the higher from the lower one. They certainly can if the two notes differ much in pitch. In the percussion sounds of the thorax it is not uncommon to have two sounds for comparison at least a fifth apart.

There are two characteristics always existing in the pitch of a sound, which aid us in our determination. A high sound is, as we have seen, of comparatively short duration. It is also of harder tone. A low sound is of longer duration and of softer tone. This always assists us in determining the pitch of a sound, whether we recognize the aid it affords us or not.

The first point to which I call your attention is the difference in pitch between the percussion sound of the right infraclavicular region and that of the left in the healthy thorax.

Several years ago I was taught by Dr. Guttmann, of Berlin, who follows Traube in this regard, that the pitch is higher on the left than on the right side of a healthy chest. All the instruction I had previously received on the subject had been the reverse. I therefore determined to ascertain what was generally taught

by good authorities, and to make some experiments for myself.

To show the teaching of Dr. Guttmann, I will quote from his Handbook of Diagnosis: "In the normal thorax differences in the pitch of the percussion sound at different parts may be recognized by a cultivated musical ear; thus, on the right it is usually found to be deeper than on the left, though occasionally the reverse condition is met with."

I will compare this statement with the teaching of Dr. Flint in his work on the Respiratory Organs. Referring to the infraclavicular region, he says: "In the majority of persons the resonance on the left side is somewhat more intense, the vesicular quality is more marked, and the pitch lower than on the right; per contra, the resonance and the vesicular quality are less and the pitch higher on the right side."

I have studied the literature of the subject with some care, and I generally find but little said concerning this point. By inference most of the authorities represent the two sides as alike in pitch; for example, when every region of the thorax is carefully discussed, and such a special point as the difference in pitch between the inner andr and outer parts of each infraclavicular region is brought out, no allusion whatever is made to a difference between the two sides.

We should not expect this point discussed by so early a writer as Auenbrugger, but I will call your attention to what he has to say bearing upon it: "If a distinct sound, equal on both sides and commensurate with the degree of percussion, is not obtained from the sonorous regions above mentioned (the thorax), a morbid condition of the parts within the chest is indicated." Corvisart, in his Commentaries, says: "It is a circumstance too obvious to be much insisted upon, that the percussion must be strictly similar and equal on both sides. The least sonorous side is certainly diseased." Of the American writers, DaCosta agrees with Flint. The others are silent on the subject. Most of the English writers whom I have consulted say nothing. Dr. R. Douglas Powell, however, affirms that "in the clavicular and infraclavicular regions the note should be even on the two sides as low as the third rib on firm percussion." French writers generally ignore this point, although Mailliot says: "The lungs percussed with equal force on the right and left side give the same result on one side as on the other, from the apices down to the fourth rib." German writers, so far as I have studied them, are also silent here, except Traube, Guttmann, and Seitz. The two former generally find the right side of higher pitch than the left, while Seitz finds that "in the axillary region in many cases the sound is relatively deadened (pitch raised) on the right side," thus agreeing rather with Flint.

On which side should we expect, *à priori*, to find the pitch the higher?

The height of the sound depends upon the volume of the air-containing body percussed (the lung), and also upon the tension of the chest wall and parenchyma, being inversely as the volume and directly as the tension. We may represent this by $H = \frac{T}{V}$. There is, I think, no doubt of the correctness of this formula, although Skoda says that the pitch is dependent entirely upon the quantity of air in the lungs, and Woillez thinks that he has demonstrated by the spiroscope that the pitch is not influenced, at least in every case, by the tension.

Other conditions may affect the pitch; as, for example, the condition and thickness of the chest walls, and the size and substance of the organs lying in juxtaposition to the diaphragm.

Flint, with regard to the infraclavicular, and Seitz, with reference to the axillary region, both think that the increase in intensity and the lowering of pitch on the left side may be accounted for, at least in part, by the transmission of sonorousness from the tympanitic stomach.

I do not see how Flint can consistently make use of this argument, for two reasons: First, the tympanitic sound which he thinks tends to a lowering of the pitch here, he asserts emphatically is always higher pitched than the normal vesicular resonance. Secondly, he teaches in the same work that whenever the intensity of the percussion sound is morbidly increased (here by the tympanitic sound, as he says), the pitch is always raised.

All of the conditions, aside from the tension of the chest wall and parenchyma and the volume of the lung, exert upon the pitch a comparatively slight influence, I think.

There is no uniform difference between the tension of the two lungs recognized by authorities and laid down in text-books. There is a difference in the volume, the right lung being the larger. Hence we should expect to find the pitch lower in the right lung in the majority of cases. Should we find the reverse to be true, we should conclude that the tension was greater on the right than on the left side, and, too, that the difference in tension exceeded the difference in volume.

I have been experimenting upon this matter for several years, and have given careful attention to the work. It is needless to say that all the subjects examined were in good health, and that special care was taken with reference to pulmonary disease. All cases of deformed and unsymmetrical thoraces were discarded; also all abnormally large or small ones. I percussed in every case both with and without the plexímeter, and I attended to two points which are often overlooked in comparing the percussion note of the two sides. First, care was taken in every case to percuss on points equally distant from the sternum, for in the regio-infraclavicularis externa the pitch is higher than in the regio-infraclavicularis interna. And secondly, percussion was made at the same period of the act of respiration, always at the close of a full inspiration.

Referring to the formula $H = \frac{T}{V}$, in inspiration, both numerator and denominator are increased, but the increase in tension of parenchyma and chest wall is greater than the increase in volume of the lung, and as a consequence the pitch is higher at the time of full inspiration than at any other period of the act of respiration. At the close of a forced expiration the pitch is slightly lowered, although Stokes says: "A full inspiration makes the sound clearer, full expiration the contrary, but they both raise the tone a little, they render the pitch higher. Why is this? For the simplest reason in the world, — both actions tighten the drum. They strain the walls of the chest and render their vibrations quicker, and therefore the sounds higher." This, by the way, is the only allusion to the subject of pitch that this writer makes in his work on the chest.

I have had opportunity to examine only two hundred subjects; not enough, I know, to determine the matter satisfactorily, but still enough, I think, to be of

interest to you. The persons were mostly men, thirty only being women. They were all between the ages of twenty and forty. I divided them, with reference to the results obtained, into five classes: (*a.*) Those in whom no difference was found in the pitch of the two infraclavicular regions. (*b.*) Those in whom the pitch was slightly higher on the right. (*c.*) Those in whom it was slightly higher on the left. (*d.*) Those in whom it was markedly higher on the right. (*e.*) Those in whom it was markedly higher on the left.

I will say here, that whenever I thought there might be a slight difference of pitch, but was in doubt about it, I placed the case in class *a*.

The result was as follows: —

(*a.*) No difference	72
(*b.*) Slightly higher on right	71
(*c.*) Slightly higher on left	26
(*d.*) Markedly higher on right	23
(*e.*) Markedly higher on left	8

At first glance this result might seem to be of little significance, but I do not so consider it. Out of two hundred cases in but seventy-two, or but little more than one third, is the pitch equal on the two sides. In ninety-four cases, nearly one half, the pitch is higher on the right than on the left. In thirty-four cases the reverse is true.

Now what is the practical bearing of this, supposing the work to have been well done, and considering the cases sufficient in number to be of value?

In the first place, a difference in pitch — and a difference in pitch means a difference in intensity and quality as well — at the apex of either lung, unless decidedly marked, does not necessarily indicate disease on the side where the pitch is higher. According to my investigation there is a difference in nearly two thirds of the cases. This, however, is not generally taught.

Secondly, although the right side is much oftener high-pitched than is the left, still out of two hundred cases we have thirty-four, seventeen per cent., in which the pitch is higher on the left. So, although it is much more significant to find the left lung showing dullness on percussion at the apex than the right, yet this by no means is proof of disease, as I think is generally taught by those who make any distinction between the two sides.

While I was conducting these experiments, a friend made the criticism that to have the result satisfactory a resonator should be used, so that the pitch could be accurately determined. I do not agree with him. In that way every variation of pitch could be discovered, to be sure, and probably a slight difference would be noticed in nearly every case, but it would be of no practical value. What I desired to show was what could be discovered by an ordinary ear, — an ear musically uncultivated.

. . . . . .

There are so many unsettled questions in medicine that it would seem worse than useless to call attention to any point simply because authorities differ concerning it. If we were to do that we should have our hands full. But there is so much loose writing, especially concerning strictly scientific matters, in even the best medical works, that I think a protest now and then is needed. I desire to call your attention to the pitch of the tympanitic sound.

Dr. Flint, in his work on the Respiratory Organs, teaches that the pitch of the tympanitic percussion sound is always higher than that of the normal vesicular resonance, and he affirms that there is no exception to this statement. In his Manual of Percussion he says: "If there are any exceptions they are very few."

Dr. Loomis, in his Physical Diagnosis, says that the pitch of the tympanitic sound is lower than that of the normal vesicular resonance.

These statements, unaccompanied by any explanation, are taught as facts by two of our most widely read writers. They are diametrically opposed to each other, and I think I can show that, although the latter writer is, from a scientific stand-point, nearer the truth than the former, they both offer good examples of loose and incorrect writing.

The normal vesicular resonance is a good illustration of a non-tympanitic sound. The sound elicited from pulmonary cavities under certain conditions, and also the sound obtained by percussing the intestines or stomach when not too tensely inflated, are good examples of a tympanitic sound. The latter is a clear, ringing sound, with a musical tone, the sound-waves striking upon the tympanum of the ear at regular periods. The non-tympanitic sound is not a musical sound, the waves striking the tympanum irregularly.

Percuss a freshly removed sheep's lung without inflation, and you obtain a clear musical tympanitic sound. Inflate the lung to the degree of tension maintained in life, and the sound becomes less clear, non-musical, and non-tympanitic. Here the pitch is raised. Or take a pig's bladder, just barely filled with air, with no stretching of the membrane, and on percussion the sound is clear and tympanitic. Now inflate the bladder until the walls are tense, and the percussion sound is non-tympanitic, with a higher pitch.

According to Skoda and Niemeyer, and in fact according to authorities generally until quite recently, the relaxation of the chest well and parenchyma was considered as the chief if not the only necessary condition of tympanicity of the pulmonary percussion sound, and the tension of these parts the sole cause of non-tympanicity. Tension of the membrane often destroys the tympanicity, to be sure, as the two examples just given illustrate, and as is seen in meteorismus of the bowels. In all these examples the pitch is raised. Tension does not, however, necessarily destroy the tympanitic sound, as is seen in the case of the drum. With this example before him, how could Skoda say that the stretching of the membrane necessarily destroys the tympanicity of the percussion sound? In many pulmonary cavities the tympanicity and also the pitch are dependent on other factors than the relaxation of the surrounding walls.

I have not space, however, to dwell on theories as to the cause of tympanicity, under all the different conditions with which it is met. I will call your attention to certain pathological conditions in which the percussion sound is tympanitic, and consider the question of pitch in each case.

Those conditions which favor retraction of the lung tissue often give rise to a tympanitic percussion sound, just as we have seen that the lung when removed from the thorax and allowed to assume its natural uninflated volume gives a clear musical tympanitic sound.

There are several pathological conditions under this head, but I will allude to only one, which is sufficient for illustration.

In moderate pleuritic exudations the lung above the level of the fluid shrinks in volume, and when this

retraction reaches a certain point, which is variable in different cases, the percussion sound is tympanitic. In this case the pitch is lowered as the tension is diminished. Here the pitch of the tympanitic sound is lower than that of normal vesicular resonance.

If all cases where the sound is tympanitic could be thus easily disposed of, Dr. Loomis would be justified in his broad statement, for here the two sounds compared are both elicited from lung substance, and the tympanitic one coming from a lung of diminished tension is in consequence of lower pitch.

Without attempting to classify all the conditions which give rise to a tympanitic percussion sound, I will speak of a class of cases which are very different from that just discussed, and which obey different laws with reference to their pitch. I refer to the tympanitic percussion sound of pulmonary cavities.

In the first place, a cavity is either shut in completely by its walls, or it communicates by an opening with the adjoining tissue. If it is completely occluded, the air within cannot be set in vibration so as to produce an audible sound if the walls are stiff and unyielding. If the walls are sufficiently elastic to admit of the production of a distinct sound from the cavity, tympanicity will be present only in case the walls are not too tense.

The tympanitic sound obtained from a completely occluded cavity with elastic walls in a state of relaxation obeys the same law of physics with reference to pitch as the non-tympanitic normal vesicular resonance. The height is directly as the tension and inversely as the volume.

If the cavity communicates by an opening with the adjoining tissue, the sound may be tympanitic with either elastic or unyielding walls. If the walls are stiff and inelastic, the pitch of the percussion sound depends upon the volume of the cavity and the diameter of the opening of communication, being inversely as the volume and directly as the diameter of the opening. If the walls are elastic, the pitch of the sound depends on these two factors in just the same way, and also upon the tension of the walls, being of course in direct ratio with the tension.

There is also a general law with reference to the elasticity of the walls, that the pitch of cavities, *cæteris paribus*, is in inverse proportion to the elasticity of the walls. If a cavity is sufficiently long and narrow, that is, if in form it is a tube rather than a cube, the pitch does not depend upon the volume of the cavity, but upon the length of the air-vibrating column, being in inverse proportion to this length.

It is true that the tympanitic sound of the abdomen is higher pitched than the normal vesicular resonance. This is not because it is tympanitic. You could with more truth say it is in spite of that fact. We have seen that in tympanicity from lung retraction the pitch is lowered. We have also seen that in the case of the tympanitic sound of pulmonary cavities the pitch is sometimes high and sometimes low, according to the elasticity and tension of the walls, the diameter of the opening of communication, the volume of the cavity, or the length of the air-vibrating columns.

Perhaps Dr. Flint arrives at his conclusion by simply comparing the sound of a tympanitic abdomen with the normal vesicular resonance; and Dr. Loomis may arrive at his by thinking with Skoda that the sole cause of tympanicity is relaxation and decrease of tension of the tissues.

A CASE OF CHYLOUS DEPOSIT IN THE ABDOMEN.[1]

BY FRANKLIN NICKERSON, M. D., OF LOWELL.

THE subject of this sketch has been deaf and dumb from his birth, and his wife became so at the age of four years, the result of some injury. The two children of this union can both speak and hear. Our patient is fifty-five years old. He was born in Westford, Mass., in which place and Lowell he has spent his life. He has lived in Lowell thirty-two years, and for the past thirteen years in Bachelder's Place, which leads out of Walker Street at a point not far from Pawtucket Street, — a locality which is sufficiently healthy. Up to fifteen years ago he had worked in a bedstead factory. Since then, till a year and a half ago, his occupation had consisted in finishing doors, in which a good deal of heavy lifting is required, especially in the handling of the hard woods, but notwithstanding this he has never had hernia. For a year and a half he has been employed in a cash-carrier factory, where his work is much lighter. He knows of nothing peculiar in his family history except that his father died of consumption. His height is five feet and three inches. His weight has varied but little from one hundred and five pounds since he attained to manhood. His general appearance is fairly healthy; his carriage is erect and firm, and his movements are quick and nervous. His figure is not muscular, and, though spare, is well formed except that his abdomen is full for a person of his general build, and, as he says, has always been so. His complexion is light, and his hair has been white ever since the age of seventeen. He has been near-sighted for many years, has always been nervous, and has had only one testicle from birth. His general health has always been good, and he had kept steadily at work until the forenoon of January 15, 1877, when, on account of a sudden attack of pain shooting from the lower part of his back directly forward through his abdomen, and accompanied by vomiting, he was obliged to give up his work, and go to bed. The pain increased so that on the following day Drs. Savory and Fisk were summoned. They found the patient suffering from pain in a tumor, which, from its form, size, and situation led them to think that it was a distended bladder. The catheter was readily passed, but it withdrew only a few drops of limpid urine. Aspiration was then resorted to, which resulted in the extraction of about two quarts of milky fluid, with entire relief to the patient. After the aspiration the tumor collapsed to a level with the surface of the abdomen, and in a day or two the patient was about his work apparently as well as ever. Throughout this attack there was no febrile action, no symptoms pointing to any organ, and no affection of the general system except nervous excitement from pain and fear of the operation, and some slight weakness for a day or two. The evacuations, both of the bladder and rectum, were normal. An experience like that just narrated was repeated on March 21 and October 3, 1877, and July 28, 1878, respectively, except that every recurrence of the tumor was preceded by an exacerbation of pain lasting for about three days, while the quantity of fluid diminished so that by the last aspiration scarcely twenty ounces were withdrawn. I was present on this occasion, and

[1] Read before the Massachusetts Medical Society, June 11, 1884, and recommended for publication by the Society.

can confirm the account of the case as given by the attending physicians. Some months after this the patient noticed a partial refilling of the tumor, and a subsequent retrocession thereof. The aggregate amount of fluid aspirated was about five quarts. After the first aspiration up to a year and a half ago he was subject to a dull ache in the lower part of the back, which was easily converted into a severe pain, shooting forward to the site of the tumor above described, by long walks or riding. This pain was also brought on when having a desire to go to stool he did not satisfy that desire at once. He had at times also some pain in the act of micturition. During the period just mentioned vomiting occurred at various intervals. The matter vomited consisted in the main of the same milky-looking fluid which was taken from the abdomen. When the vomitus was profuse general weakness followed for a few days. To these facts the patient, his wife and daughter testify with the greatest confidence. The patient has always had an aversion to milk, and has never used it except sparingly in coffee. He dislikes fat also.

These are the only peculiarities observed in his diet. From the time of the first to the last aspiration the vomiting was less frequent and the milky vomitus less abundant than afterward, when these symptoms had increased to such a degree that the daughter called the attention of her physician to the fact. He asked her to bring to him a specimen of the vomitus if it should appear again, but this request was never granted. The pain and vomiting had been growing less marked up to a year ago last March, when his last attack of vomiting took place while he was at work. This attack was accompanied by a loose discharge from the bowels, in which, as well as in the vomitus, the milky fluid, as he says, reappeared. Ever since this time he has been well in every way.

A specimen of the fluid withdrawn by the first aspiration was brought to me a few hours after its extraction. Its general appearance was that of milk. After standing a few hours it exhibited a soft and generally diffused coagulum. Although some of the fluid remained in my office for a week in a temperature which ranged from 60° F. to 68° F., there were no signs of decomposition. It was odorless, and its taste was mawkish. The reaction was alkaline, and the specific gravity was 1018. Ether extracted from it largely a clear, yellow fluid, in which, on the addition of nitric acid, an albuminoid precipitate was thrown down. Under the microscope were seen large quantities of molecular granules, fat globules, occasional crystals of cholesterine and granular corpuscles of different sizes, in some of which nuclei were revealed on the addition of acetic acid.

A portion of the fluid was sent to Professor Edes, of Boston, who replied as follows: —

"January 19, 1877. I received your very interesting specimen yesterday. It is, as you suppose, an emulsion containing very finely divided fat, like chyle, and granular corpuscles of various sizes and shapes, and fat globules, single and aggregated. Dr. Fitz found a little cholesterine. I found no cells, except those mentioned, to indicate in any way its source. Chemically ether extracts a large amount of fat, bright yellow in color. It contains also a large amount of albuminous substance which precipitates with nitric acid, but also, after being boiled with alkali, with acetic acid, which would assimilate it more closely to caseine. I was unable to get a trace of urea or anything like urinary pigment. There is also no urinary smell."

Professor Wood, of the Harvard Medical School, thus writes in allusion, as I think, to some oral observations which he had previously made on some of the fluid which had been taken from this patient: —

"December 7, 1878. I find nothing additional in my notes. The fluid was milky in appearance, and on being shaken with ether was rendered nearly clear. This clear fluid contained a large amount of albumen. The ether left, on evaporation, a large amount of fat. The microscope showed oil globules and lymph corpuscles in large numbers."

Unfortunately the fluid which was withdrawn by the last aspiration, and was sent to Professor Wood for a quantitative analysis, did not reach him till it was too old for examination.

In searching for precedents to the foregoing case I am mainly indebted to Professor Busey, of Washington, D. C., who has written two volumes, one entitled Congenital Occlusion and Dilatation of Lymph Channels, and the other, Narrowing, Occlusion, and Dilatation of Lymph Channels — Acquired Forms. A digest of the latter treatise, with some additions and modifications, may be found in the American edition of Holmes's System of Surgery.

Georgevic, in Langenbeck's *Archiv für Chirurgie*, vol. xii., p. 641, has written an article on lymphorrhœa and lymphangioma, and has illustrated his subject by a number of cases.

In Virchow's *Archiv für Pathol. Anat.*, vol. lxiv., No. 2, Dr. Weichselbaum, of Vienna, makes the discovery of a chylangioma cavernosum in the mesentery of the upper ileum the text for a summary of some contributions which had been made by different writers to the knowledge of lymphatic and lacteal pathology. There are also reports of cases relating to this subject scattered through various medical journals, but on the whole its literature is meagre.

In Professor Busey's work on the acquired forms of lymphatic disease is found the following classification: First, anomalies and lesions of the thoracic duct; secondly, rupture of the lacteals and receptaculum chyli; thirdly, chylous effusions into serous cavities. The vices of formation are mere curiosities of the dissecting room. It is stated, first, that diseases of the texture of the thoracic duct are usually the result of infection through the smaller lymph channels; secondly, that diseases of the lymphatic apparatus show a tendency to degenerative processes which have an enfeebling and wasting effect on the general system. It is evident, therefore, that we must look further than Professor Busey's first heading for analogies.

In an essay on dropsy by Donald Monroe, London, 1865, are found the following cases: (1.) In the body of a man who died after a large quantity of chylous liquor had been let out of his thorax was discovered, about the third or fourth vertebra, an orifice from which the chylous matter flowed as from a fountain. When the lower part of the thoracic duct was blown into the air came out at the above-mentioned orifice. (2.) A girl made too great an effort to raise a burden, and became hydropic soon after. Being frequently tapped there always issued from the puncture chylous matter. (3.) Hydrops lactea in a boy two years of age, which, after his death, was found to have been caused by a large number of indurated tumors which

compressed the thoracic duct, and had been the cause of a rupture of some of the lacteals.

Percival, in his Essays Medical, vol. i., London, 1788, reports the case of a girl who had ascites, and was anasarcous. Four quarts of a milky fluid were withdrawn at the first tapping. After the second tapping she recovered her appetite and strength. Percival suggests that she probably ruptured some lacteal by unusual exercise after a full meal.

Quincke, in the *Deutsches Archiv für klin. Med.*, vol. xvi., p. 121, reports a case of effusion of chyle into the right pleura from a ruptured chyle-vessel in a man who had been run over by a wagon.

The *Gazette Medicale de Strasbourg* (see translation in *Jour. Amer. Med. Assoc.*, August 4, 1883) describes a case of abdominal dropsy in which there had been eight tappings in four months, and each time four gallons of milky fluid were withdrawn, which Professor Rechlinghausen decided to be chyle from rupture of lacteals of the intestines or mesentery.

Dr. Mastin, in a subject affected with chylocele (see *Amer. Med. Weekly*, Louisville, Ky., vol. ii.), found the patulous mouths of three or four lymph vessels which discharged the fluid that filled the cavity of the tunica vaginalis.

From the preceding summary and from sources elsewhere studied we find that effusions of chylous fluid have taken place in various parts of the body, and that ruptures of the lacteals have been either seen or diagnosticated, but that from an anatomical stand-point a distinction must be made between deposits of true chyle and what, for want of a better term, we may call chyloid deposits. Two classes of cases illustrate this point of distinction: First, milky deposits in parts near the lacteals, for example, the abdomen and thorax; secondly, similar deposits in parts remote from the lacteals, for example, the labia majora, thigh, and ankles. The anatomical difficulty of remote deposits is explained as follows: —

Roberts maintains that the secreting structures in these cases are anatomically related to the lacteal and lymphatic tissues, which, in consequence of their hypertrophic development, have acquired the property and function of the cells lining the lacteal ducts and glands. Petters offers the theory that the chyle-like fluid arises from the fatty degeneration of the endothelium and other form elements, and in the decomposition of protein substances, which processes are brought about by the stagnation of lymph. Fetzer ascribes the phenomenon to the absorption of the surrounding adipose tissue by the lymphatics.

A comparison of the chemical and microscopic analyses made in our own case and in other cases of chylous effusion, the proximity of the tumor to the chylous centres, the suddenness of its first appearance, and the locality of the pain, suggest the idea that the fluid obtained from our patient was chyle from ruptured lacteals, and that this rupture may have been due to a strain in the abdominal region, possibly on vessels already distended; for, although there is no history of any special wrench at this time, it is notorious that the patient's work had been altogether too heavy for him.

In only two instances do we find mention made of the aseptic character of the chylous fluid, namely, Quincke's case, above quoted, in which the fluid extracted by ether remained fourteen days without any change in looks or smell, and Dr. Weaver's case, reported in *Med., Surg., and Pharm. Repository*, August 1814, in which the milky fluid was kept for several weeks without any appearance of decomposition.

The symptom of chylous vomiting finds a single precedent in the *New England Journal of Med. and Surg.*, vol. xii., p. 4, in which we read the following record: "Dr. Sprague was called to see a man who, while on duty as a sailor, being previously in good health, had been suddenly seized with a severe pain in his stomach and bowels and across the lumbar region, accompanied with the puking of a great quantity of chyle looking like frothy milk. He was pulseless, deathly cold, and pale. The fluid was discharged without effort. The quantity was variously estimated, by some as high as one gallon."

As to the symptom of chylous discharge from the bowels, we have only the testimony of the patient himself, but it seems not improbable if we admit the simultaneous occurrence of chylous vomiting. There is no history of repeated loose discharges, as was the case in the diarrhœa chylosa of the old authors.

Perhaps the most remarkable features of our case are, first, the apparently perfect recovery after so long a continuance of chylous phenomena; secondly, the repeated drain of chyle from the system without any appreciable loss of flesh or strength. But perhaps the drain was not large enough to produce these effects. All other cases that we have examined where the loss of chyle or lymph has been abundant have been attended with marked prostration. By abundant loss we mean the repeated removal of quarts, for example, the case of Recklinghausen, above described, and that reported by Saviard, in which, from July 2, 1669, to March 4, 1670, paracentesis was performed twenty-two times, and 289 French pints of chylous fluid, in the aggregate, were withdrawn.

But into whatever speculations we may be led concerning causes and symptoms in the absence of that best of all diagnosticians, a post-mortem examination, we may safely decide that what we have to deal with here is not malignant or organic disease, but more probably a mechanical lesion.

In conclusion the case is submitted to the profession with the hope that it may be a stimulus to farther investigations in the department of pathology which it illustrates.

NOTES OF TWO AUTOPSIES.[1]

BY S. D. PRESBREY, M. D., OF TAUNTON,
Medical Examiner.

I. Early in the morning of Wednesday, April 18, 1883, I was summoned by the police to visit East Taunton to investigate a sudden death, which the neighborhood had already dignified by the title of the "Squawbetty murder case." The dead body of a woman about fifty-five years of age had been found in a small house in "Bottle Row" (suggestive name), where, during the night previous, there had been a disturbance, and every indication of a drunken carousal. The house is a small one, having three rooms on the principal floor, a front, a middle, and a rear room. The front and rear rooms open from the middle room, and admission to the house is to the middle room through a small porch, which contains the kitchen

[1] Read at the annual meeting of the Massachusetts Medico-Legal Society, June 10, 1884.

sink, over which is a window, the sink and window being opposite the outer door.

This window and sink with its contents were stained with blood, much of which was in fine sprays as if caused by jets from a bleeding artery. The middle room contained many blood-stains of the same character upon the floor and walls, and even upon the articles of crockery on the table. On the floor, near the middle of the room, was a pool of blood. In the rear room was a bed, upon which lay an old man, his head resting upon a blood-saturated pillow, his hair and face covered with blood, and a large pool of blood was on the floor, under the head of the bed.

This man was living, but very weak from loss of blood, which had occurred from a cut in the forehead that had evidently divided a quite large branch of the temporal artery. The hæmorrhage had stopped, but the old man, feeble and bewildered, was unable to give a very clear explanation of his condition. The main idea with him was that he had interfered to prevent some one from being injured, and had himself got hit, he thought with a chair.

In the front room were a bed, a table, a stove, a lounge, and a few chairs. On the floor, in front of the lounge, was the dead body of the woman whose death was to be explained. She was dressed in her ordinary clothes. The body was prone. The face was inclined to the right, and rested in an iron wash basin containing, by estimate, six ounces of bloody water; the basin being slightly tipped by the weight of the head held this small quantity of water in such a way that the mouth and nostrils of the woman were completely covered by the fluid. The right leg was extended, the left flexed, the body resting upon the left knee and chest. The left arm was bent under the body; the right was extended by the side. On raising the body a little bloody water bubbled from the mouth and nose. A large bloody stain on the floor extended to the tipped edge of the basin; near the body on the floor were more marks of arterial bleeding, and on the table there was a cloth saturated with blood. There lay a pillow on the lounge with one blood-stain upon it. A pool of blood on the floor, near the head of the lounge, a bloody smooch on the wall paper near by, and a piece of blood-stained soap on the stove complete the sanguinary picture. An empty pocket-book was found on the floor, near the lounge.

The body was taken in charge by an undertaker, and conveyed to his rooms, while the proper steps were taken to prepare for an autopsy, which was made at three P. M. on the same day, with the assistance of Drs. Bassett and Galligan, of Taunton.

The record of autopsy was as follows:—

The body was that of a woman aged fifty-five to sixty years. Cadaveric rigidity was strongly marked. The skin was smooth. There was a slight abrasion one inch long on the right side of the forehead. There was a slight swelling on the right side of the head. Both of these latter, on incision, showed some ecchymosis. No other marks of violence was found. The nostrils and mouth were blood-stained. The tongue rested against the teeth.

The spinal cord was normal. The brain was normal. The sinuses and veins of the head contained rather more than the usual quantity of blood.

The mucous coat of the trachea was reddened and covered with a bloody, bubbling fluid. There was a bloody stain in the œsophagus.

The chest was quite filled by the lungs and heart. The large vessels, except the aorta, were filled with dark fluid blood. The heart and pericardium were normal. The right heart contained fluid blood. The lungs were healthy but dark in color and engorged. The liver was dark, and both liver and spleen were full of dark blood. Some bloody, bubbling matter was found in the stomach. The intestines were dark in color. The kidneys, uterus, and other abdominal organs were normal.

Diagnosis. Death by drowning.

As the body had been found in a house where it was known that there had been a drunken riot during the night it hardly seemed prudent to certify that the drowning had been purely accidental.

The public had become impressed with the idea that there had been a murder, and already two men, sons of the deceased, were under arrest. In consideration of these facts it was thought best to report the case for inquest as one of drowning, probably accidental, but possibly homicidal, that the facts and circumstances might be fully investigated.

The report of the inquest is as follows:—

The body of E. H. was found on the morning of the 18th instant lying dead in her own house, on the floor, near a lounge, with her face partly immersed in a basin of bloody water. The autopsy and other evidence in the case clearly show that her death was caused by drowning. There were no marks of violence upon her or wounds from which blood had flowed. The probability is that she fell from the lounge into the position in which she was found. That she was intoxicated may, perhaps, be inferred from the fact that a sober woman would not be likely to lie still and drown in a basin of water. The blood in the basin and about the house is accounted for by a drunken fight, which had taken place during the night between her two sons and one Flynn. At the time of her death the sons had probably left the house, and Flynn was asleep.

W. H. FOX, *Justice.*

April 20, 1883.

II. The second case is one of infanticide.

On the afternoon of Sunday, May 18, 1884, I was notified by the police that the body of an infant had been found floating in Taunton River. The body was at once removed to my stable, where it was kept carbolized till ten A. M. the following day, when, the proper legal formalities having been complied with, the autopsy was made, of which the following is the record:—

The body was that of a female infant. Weight, six pounds. Length, twenty-one inches. Umbilicus nearly in the middle of its length. Putrefaction advanced. Abdomen green. Head very soft; hair absent. Skin upon limbs hanging in shreds. Umbilical cord, three inches in length, cut but not tied. No ulceration of umbilicus. Incised wound in the front of the neck two and one half inches long, extending back to the spine, and dividing trachea, œsophagus, cervical veins of right side, and cervical veins and arteries of the left side. Incision marked by two serrations on the left side of the neck. Just above the left end of the cut a piece of skin of the size of a ten-cent piece had been smoothly removed. A slight superficial wound below and behind the left ear. Brain softened to a thick, pinkish fluid.

Thorax well filled by lungs and heart. Surface of lungs red and decidedly "marbled;" occasional bubbles on the surface from putrefaction. Lungs crepitate and spongy; edges rounded; a little bubbling, bloody fluid could be squeezed from cut surfaces. Contents of thorax, as a whole, floated high in water, and every portion of the divided lungs floated even after having been thoroughly squeezed.

Heart and large vessels normal and entirely empty. Ductus arteriosus patulous.

Liver dark in color and very soft.

Stomach contained a little grumous material, but no milk curds. Large intestine full of meconium.

The autopsy appears to justify the following conclusions: —

(1.) That the body is that of a full-time fœtus.

(2.) That the child lived and breathed.

(3.) That the child probably did not live more than twenty-four hours.

(4.) That the cause of death was hæmorrhage, possibly in part from the umbilical cord, but principally from the wound in the neck.

(5.) That the child has probably been dead at least two weeks.

Finding by W. H. Fox, Justice, May 22, 1884: —

"On the 18th of this month the body of a new-born infant, wrapped in a woman's skirt, was found floating in Taunton River, about a mile below Weir Bridge. The progress of decomposition indicated that it had been in the water perhaps twenty days. A deep gash across the throat showed that its short life had been abruptly terminated by the hand of violence. There is no evidence as to the author of this revolting crime."

RECENT PROGRESS IN GYNECOLOGY.

BY F. H. DAVENPORT, M. D.

SKENE'S DUCTS.

KLEMWAECHTER[1] refers to the two ducts opening on either side of the female urethra, which were first described by Skene in 1880, and later independently by Kocks in 1882. Skene considered them as the openings of ducts of glands, Kocks as the remains of the ducts of Gärtner. The author found the ducts present, but in two cadavers could not find gland structure at the end of the ducts; he therefore considers that they are not identical with the glandulæ vestibularis minores of Luschka, nor with the lacunæ in the neighborhood of the orifice of the urethra described by Henle.

The author saw a case of a young woman, twenty-three years of age, unmarried, who had suffered for three years from pruritus vulvæ which had resisted all treatment. As a result of the scratching the patient had become addicted to masturbation. Under chloroform the hymen was divided right and left, and the vulva cauterized with the hot iron. As a result the itching was much lessened and confined to the vicinity of the urethra. On pressure he found that pus exuded from the canals in question. He therefore injected tincture of iodine several times, and the result was a complete cure. The author thought the affection of the canals the primary one.

[1] Prag. med. Wochen., viii., 9, 1883.

DOUBLE UTERUS WITH DOUBLE VAGINA.

Dr. Dirner[2] describes the following interesting case: A woman, twenty-seven years old, began to menstruate at fourteen, regularly, but profusely, and with pain. She was married at seventeen, and had had no trouble until six months before consulting Dr. Dirner, when she noticed that urine escaped after every coitus. Examination showed that intercourse had been carried on per urethram, and that she had two vaginal orifices, so small that they would just admit a catheter. The physician who was at that time consulted enlarged the left opening somewhat, and advised that it should be used in coition. Pregnancy followed, but she miscarried at the fourth month.

A careful examination by the author showed a dilated urethra, easily allowing the finger to pass, hanging from the lower side of which was a small tumor the size of an almond, which was plainly the prolapsed urethral mucous membrane. The ostium vaginæ was apparently closed, as is seen in atresia hymenalis, but on either side under the labiæ minores two small openings were found. These were the entrances to the two distinct vaginæ, each with its uterus, the left rather larger than the right. These were connected, as was clearly made out by combined examination by bladder and rectum, by a membrane the width of two fingers.

An operation was performed to unite the two vaginæ and narrow the opening in the urethra, a detailed description of which is given. This was successful, and the patient, after one more miscarriage, became pregnant again, and was delivered of a living child from the right uterus. Both before and after birth the left uterus could be distinctly felt, somewhat enlarged and softened, and during the after-pains, when the right uterus contracted firmly, the smaller left uterus could be felt to grow smaller and become harder.

PARTIAL EXTIRPATION OF THE CANCEROUS UTERUS.

Dr. Ely Van de Warker[3] advocates in this paper a method for the partial extirpation of the cancerous uterus by the use of more powerful caustics than have heretofore been used. After destroying all the cancerous tissue possible with scissors, knife, or curette, he packs the resulting cavity with iron cotton. This is removed on the second day, and the uterus repacked with cotton soaked in a 100 per cent. solution of chloride of zinc. Should the walls be very thin at any point a weaker solution of ℥v. to ℥i. of water is used over this part. The resulting pain is easily controlled by morphia. In from two to five days the zinc cotton may be removed, and in from five to ten days the slough comes away. This is often a quarter of an inch thick, and in some cases seems to be virtually the whole of the uterus. Cicatrization is completed in from two to four weeks. Several cases are reported which show how much may be gained even in those apparently hopeless cases where the knife cannot reach all the diseased tissue.

CHANGES IN THE UTERINE MUCOUS MEMBRANE DURING MENSTRUATION.

Wyder[4] discusses this subject in an interesting article, and as a result of microscopic examinations of the uterus in cases of persons who have died suddenly during menstruation, and of examination of the uterine

[2] Arch. f. Gyn., Band xxii., Heft 3, 1884.
[3] Am. Jour. of Obstet., March, 1884.
[4] Zeitsch. für Geb. und. Gyn., Band ix., Heft 1, 1883.

secretion of blood and mucus carefully aspirated on different days of menstruation (in one case removing portions of the mucous membrane with the curette), has come to the following conclusions: —

(1.) During menstruation a portion of the superficial layer of the mucosa is destroyed, the extent varying in different cases from a very thin layer to an almost complete destruction. These portions thrown off are sometimes found intact, and sometimes in a condition of degeneration, and as detritus.

(2.) The shedding is a consequence of the menstrual flow, not of primary fatty degeneration. The latter is rather a result of the loosening and destruction of the tissues by the hæmorrhage.

(3.) The superficial and middle layers of the mucous membrane keep their small-cell character, and have no resemblance to the decidua of pregnancy, while in the deepest layers we find a cell infiltration of the interglandular substance, which is evidently intended to serve to replace the destroyed tissue.

(4.) The regeneration of the lining epithelium proceeds as well from the glandular epithelium as from the small islands of the superficial layer which remain.

STUDIES OF THE UTERINE MUCOUS MEMBRANE.

Dr. Düvelius[1] in this article considers three questions in connection with curetting the uterus: (1) the possibility of making a correct diagnosis from the portions of uterine mucous membrane removed by the curette; (2) the possibility of so completely destroying the diseased mucous membrane by the curette that one can be safe from a return of the disease; (3) the possibility of a normal pregnancy occurring after this procedure.

To determine the first point the curette was used on twenty-two uteri from women who had died of other affections than uterine. This was done before post-mortem changes could have begun, and as carefully as if on the living subject. The uteri were then examined, and with the exception of the first three cases, in which the curetting was not so carefully done, the muscular layer was laid bare over the whole extent of the uterine cavity. There were, however, in all cases small isolated portions of the mucous membrane remaining attached, and the ends of the glands which dipped down into the muscular tissue were found. Enough, however, could be obtained to make a diagnosis easy. In nine cases of examination during life the diagnosis was made with the microscope, and confirmed by an examination of the uterus, which was in each case removed. Two were of carcinoma, two of malignant adenoma, one of sarcoma, and four of endometritis adenomatosa. The author considers the first point as sufficiently proven.

As regards the second point, namely, the return of the disease, while its possibility cannot of course be denied, yet the writer considers that energetic curetting, especially if followed by appropriate treatment at the time by caustics, etc., very much diminishes the probability.

Two points throw light upon the third question, that of possible conception. First, examination of uteri which have been the subject of thorough curetting, and have subsequently been removed, show microscopically a complete regeneration of the mucous membrane and an absence of cicatrices; *a priori*, therefore, we would expect the possibility of conception.

[1] Zeit. für Geb. und. Gyn., Band x., Heft 1, 1884.

Second, numerous examples of its occurring in persons who have been the subject of this operative procedure are on record. In the five years from 1879 to 1883 the reports of sixty such cases were found by the author.

IGNIPUNCTURE OF THE CERVIX UTERI.

L. Prochownick[2] refers to the almost complete abandonment of the use of the hot iron and galvanocautery, and says that in most minor affections of the cervix uteri the knife, scissors, and the suture have rightly taken the place of the incandescent instruments. He, however, thinks that with reference to the wedge-shaped incision, and amputation of the vaginal portion, there is some doubt. In his experience he has had failures, and he has found a good many patients who were unable to devote the necessary time and means for the more elaborate operation. He has therefore devised the following method of dispensary treatment: Two or three times between each period four ignipunctures, two in the anterior and two in the posterior lip, are made with the pointed galvano-cautery, or the Pacquelin, the latter when greater depth is required. The direction of the punctures is centrifugal or centripetal, according to the nature of the case; the former for indurated hypertrophy without profuse catarrh or ulcerations, the latter for opposite conditions.

The patient should rest half an hour after the operation, and then may be allowed to attend to her ordinary occupations. There is some swelling of the cervix for a few days, and the granulating depressions heal in between two and three weeks. In general five or six operations suffice, and the result is cessation of cervical catarrh, healing of eroded surfaces, and a marked diminution in the size of the cervix. The author has in forty cases not had a relapse, and has observed no unpleasant consequences.

THE RELATIONS OF OVULATION AND MENSTRUATION.

Lawson Tait[3] in this article reviews again the evidence in this much-disputed question, and again expresses his well-known views of the complete independence of the two functions. He first refers to the statement that menstruation in woman is analogous to rut in the lower animals, and claims that this is not so, on the grounds that, first, both the congestion and periodicity are too faulty (?) in the lower animals to constitute an analogy; second, that while impregnation occurs in the lower animals only during the œstrus, "in the human subject (quoting Dr. Farre), whatever may be possible during menstruation, yet essentially the intervals of the menstrual act are the times of fertility in women;" third, that our limited experience goes to prove that so far from the sexual desires being strongest at the menstrual period the reverse is the case.

The author then asks the question, whether it is true that the so-called ovarian excitement, alleged to arrive at the ripening of a follicle, has anything to do with the process of menstruation. The facts which he considers to have bearing on this point are, that in newborn infants and children there are sometimes Graafian vesicles or ovisacs, in which at the fourteenth year ova may be detected, showing, therefore, the possibility, "*if rupture should occur*" (the italics are ours), of impregnation taking place without menstruation; that these

[2] Am. Jour. of Obs., May, 1884.

[3] Med. Times and Gazette, May 10, 1884.

vesicles "all through life discharge by circular-shaped capillary-sized openings in the peritoneal coat, the presence of the catamenia being thus no indispensable prerequisite to their rupture;" that Graafian follicles of some size are found for many years after the menopause; that as there is no analogy between menstruation in woman and the rut, the innumerable experiments on animals have been not only useless but misleading; that impregnation "occurs often in the absence of the catamenia, as in the amenorrhœa of lactation and other conditions; and, lastly, that in the experience of ovariotomists, "in many cases in which both ovaries have been removed, these organs have been found so thoroughly diseased as to preclude the idea that they could possibly have performed the functions of ovulation normally, if at all, and yet the regularity of menstruation has suffered no interruption, and also that after the removal of both ovaries, and even tubes, menstruation has occurred regularly."

The author next relates his own experience from the opportunities abdominal surgery has given him of observing the ovaries during life. He has always found that during menstruation the tube is fastened on the ovary, whether there be a ripe follicle at the point of adhesion or not; that both tubes were generally fastened to their respective ovaries, though in one ovary there may have been no appearance of a ripe ovisac; that he has very frequently seen a ripe ovisac on the point of bursting, or just burst, when the patient was midway between two menstrual periods; and, finally, that in two cases he has removed ovaries with the tubes fastened on them during menstruation, in none of which were there any ovisacs approaching ripeness.

The paper closes with short records of forty-nine cases of abdominal section in which the condition of the ovaries was noted, with the following results: There were nine cases where it was evident that menstruation and ovulation were concurrent; fifteen cases of negative proof against the ovulation theory of menstruation; and twenty-five affording positive evidence against the theory. (This is an ingenious paper, and presents a long array of arguments in support of the theory advanced by the author, but we cannot but feel that many of them are faulty, and that the true significance of the facts is often perverted. It is, however, of value as expressing the opinion of one who has made a close study of the ovaries for many years, and as a contribution to this much-vexed question. No satisfactory theory of the connection of these two functions, ovulation and menstruation, has yet been given, but we do not feel that Lawson Tait has by any means satisfactorily demonstrated his theory to be the correct one. — REP.)

A CONTRIBUTION TO THE PATHOLOGY OF HYDRO- AND PYO-SALPINX.

Dr. J. Kingston Fowler[1] gives a very interesting series of fifteen cases of hydro- and pyo-salpinx met with in the post-mortem room of the Middlesex Hospital in the course of the last three years. Clinical details are omitted, but at the head of each case an abstract has been placed of the changes found in the various organs, followed by a fuller description of the condition of the parts more immediately concerned. The cases as given are very interesting, but we have space only for the conclusions. "It is very probable," the author says, "that many cases of peritonitis which have been regarded as idiopathic, as secondary to abscess of the ovary or pelvic cellulitis, have been really due to rupture of a Fallopian tube, distended with pus, into the peritoneal cavity." In eight of the fifteen cases, all pyo-salpinx, the state of the tubes was the immediate cause of death. Of the eleven cases of pyo-salpinx death was due to peritonitis in seven, and in one case each to septicæmia, amyloid disease, cancer of the uterus, and scurvy. "There can be no doubt," the writer says, "that any inflammatory condition of the uterine mucous membrane, however induced, it may be by extension of a vaginitis, or some affection of the os or cervix uteri, by a retroflexion, by the presence of a fibroid tumor or polypus, or as a result of prolapse or malignant disease, may spread to the Fallopian tubes, and ultimately establish the condition of pyo-salpinx." He has noticed that in many cases there is an induration close to the uterine end of the tube, the lumen of which is at that point entirely obliterated. In three cases such obliteration seems to have been due to the presence of fibroids.

[1] Med. Times and Gazette, May 3, 1884.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. H. WILLIAMS, M. D., SECRETARY.

APRIL 7, 1884.

DR. A. N. BLODGETT read a paper on

SUBSCAPULAR ABSCESS.

DR. HOOPER mentioned two cases in infants. In the first case the scapula stood out at an angle with the chest wall like a wing, and the pus worked its way into the pleural sac; in the other an operation was done to allow the pus to escape and the child recovered.

DR. F. MINOT had seen two cases. The first looked like an effusion into the abdominal cavity, but an exploratory incision showed a collection of pus under the skin and over the abdominal fascia. The second was a young lady, twenty-two years old, whose health had always been good, noticed some pain in the upper part of the back, below the left shoulder, which was increased on motion of the arm. On examination a tumor was found just outside the edge of the scapula. It lay rather deeply, somewhat towards the axilla, at about the edge of the trapezius muscle. It was about as large as an egg, round, smooth, quite movable, and slightly tender. It was thought to be a fatty tumor, and an incision was made into the tissues over it extending through some fibres of the trapezius, when a sudden jet of pus showed the supposed tumor to be an abscess. An ounce of healthy pus was discharged through the enlarged opening. The abscess lay partly upon the lower portion of the scapula. The wound was brought together with sutures, a bit of rag being left in the lower part for drainage, and was completely healed in about ten days.

DR. A. T. CABOT then showed the specimens from

A CASE OF DOUBLE OVARIOTOMY.

The patient, a woman fifty years of age, ceased menstruating five years ago. Four years ago she began to

be troubled with frequency of micturition and occasional slight pains in the left side of the abdomen. She noticed at this time a swelling in the left hypogastrium. When seen by Dr. Cabot the tumor occupied the whole abdomen, reaching nearly to the ensiform cartilage.

The operation was done ten days ago. A cyst of the left ovary, with a long, twisted pedicle and a number of long adhesions, was readily emptied and removed. It was then seen that there was also a multilocular cyst of the right ovary. This latter tumor had been so held down by the superincumbent larger cyst that it had not been able to rise out of the pelvis and form a pedicle for itself, but was firmly imbedded behind the uterus and was fastened by a wide base to the right broad ligament, between the layers of which some of the cysts had grown.

Examination showed that Douglas's cul-de-sac was occupied by one large cyst which was so immovably fixed that it seemed as if it must be adherent somewhere, though no adhesions could be reached. After trying in vain to separate the tumor from the broad ligament the overlying cysts were drawn to one side and the large cyst deep in the pelvis punctured. It was found to be not adherent, but simply wedged in the pelvis. When empty it allowed the whole mass to be lifted out, and the tumor was then readily separated from the broad ligament. The hæmorrhage from the wounded surface in the pelvis was considerable, but was finally controlled.

The patient's temperature rose to 101° F. the night after the operation, but never reached that point again. Except a moderate abdominal soreness for the first twenty-four hours she suffered no pain, and her recovery was uninterrupted. The stitches were all taken out on the day of the report, and the wound found to be healed by first intention.

The cysts, with their fluid contents, weighed eighteen pounds.

The inner walls of several of the cysts were occupied by an extensive papillomatous growth with here and there yellow patches of fatty degeneration. The fluid, which resembled thick pea soup in appearance, was filled with large granular cells and granular matter.

Dr. C. M. Green showed a specimen of human ovum with a definite history as to age, of six to seven weeks. The villi of the chorion had begun to atrophy, leaving about two thirds free from villi.

Dr. Charles H. Williams reported

AN ALLOPLASTIC OPERATION.

The patient, a man twenty-two years old, received a severe burn of the left side of the face when a child. The lower lid has since then been everted, the ectropion involving the outer two thirds of the lid and exposing a strip of conjunctiva about five millimetres wide. An operation was done at the infirmary after Wolfe's method, by transplanting a piece of skin without pedicle from the arm.

The edges of both lids were first freshened, a cut was then made about five millimetres from the edge of the lower lid and parallel with it, and the cicatricial tissue which bound the skin to the underlying bone was dissected up so that the edges of the lids could be brought together by three sutures. A piece of skin about four by two centimetres was then taken from the anterior surface of the upper arm and inserted in the opening made in the lid. The subcutaneous tissue was trimmed off from the under surface of the flap before its connection with the skin was entirely severed, and the flap was then at once removed to its new place and secured by ten fine sutures, great care being taken to bring the edges well together and to avoid any rolling in of the epithelial surfaces.

While the sutures were being applied the flap was kept warm by a succession of sponges dipped in hot water, and finally the parts were thickly sprinkled with iodoform, a thick pad of absorbent cotton was laid on, and the whole secured by a long flannel roller bandage. This dressing was allowed to remain untouched for six days; at the end of that time the flap was found to be somewhat whiter in color than the surrounding skin and to be anæsthetic, otherwise the parts looked well and were in good position. The sutures were removed from the edges of the flap at this time, but those in the edges of the lids were allowed to remain one day longer, when they were also removed and the lids were found to be firmly united for three quarters of their length. At the inner angle a free space was left, through which the discharge from the conjunctival surfaces found exit.

Ten days after the operation a small blister was seen near the centre of the graft and another near the lower edge; the epithelial surface was slightly raised, and there seemed to be a slight serous effusion underneath. The blister at the lower edge continued to increase in size for several days, and the loose epithelium was finally peeled off with the forceps from about one tenth of the graft, leaving an uneven red surface underneath. A fresh layer of epithelium soon spread over this surface from the edges of the wound, and this process was repeated until the whole of the epithelial layer of the graft had exfoliated and had been replaced by new. In the mean time a considerable shrinkage had gone on in the size of the flap, and from measuring 3.25 by 1.5 centimetres one week after the operation it had come to a strip three centimetres long by half a centimetre wide. About two months after the operation the tissue uniting the lids was divided. At first there was very little ectropion remaining, but after two weeks the swelling of the conjunctiva increased and the eversion became fixed, though less than half as great as before. A second operation was therefore done to correct the remaining deformity by removing a wedge-shaped piece of the conjunctiva and underlying tissue. A cut was made along the inner surface of the lower lid, three millimetres from its free edge and parallel with it. The knife was carried parallel to the tarsus to the depth of more than half a centimetre. A second cut was now made, parallel with the first, but holding the knife at such an angle that the two cuts would come together at the depth of half a centimetre. In this way a wedge-shaped piece of tissue was removed having sides about one half a centimetre broad and of a length equal to the everted portion of the eyelid. Two deep sutures, each with two needles, were then passed through the skin a little below the eyelashes, and going backward through the subconjunctival tissue were brought out on the cheek 1.5 centimetres below the point of entrance, and the lower ends being tied the cut edges of the conjunctiva were brought into apposition and the eversion was reduced.

After four days these sutures were removed, there had been no suppuration along their track, the wound had healed, and the ectropion had disappeared.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, M. D., SECRETARY.

APRIL 26, 1884. DR. J. C. WHITE presiding. Eighty-five members present.

REPORTS OF COMMITTEES.

The committee appointed at the stated meeting October 27, 1883, on the restoration of the National Board of Health, reported any action to be at present inexpedient.

The Committee on Social Meetings reported a balance on hand of $163.73.

The treasurer reported an expenditure during the past year of $432.99, and a balance in the treasury of $231.13.

DR. A. DAY presented a paper entitled Medical Delusions.[1]

The officers were elected for the ensuing year according to the nominations reported in the JOURNAL, April 17th.

PRIMARY CANCER OF BLADDER.

DR. WHITNEY showed a specimen of primary cancer of the bladder, situated in the right posterior wall, and involving the opening of the right ureter. This was dilated, as well as the pelvis of the kidney, which was in a condition of hydronephrosis. The left ureter was normal in size, and the kidney showed fatty degeneration of the convoluted tubes. The lumbar glands on the right side were diseased, and the liver was filled with nodules of new growth.

The microscopic examination showed the disease to be of the flat-celled variety of cancer.

The specimen came from an old man who had had hæmaturia for eight months, but no pain. Gradual loss of strength and death.

DOUBLE OVARIOTOMY.

DR. A. T. CABOT showed the specimens from a case of ovariotomy, which were interesting from the fact that a parovarian cyst was associated with a cystic condition of both ovaries.

The patient, twenty-four years of age, had noticed a gradual increase of size during the past four years. The catamenia had not been noticeably irregular. When seen the whole abdomen was occupied by a fluctuating swelling, which to aspiration yielded a fluid similar to that shown.

Ovariotomy was performed, and both ovaries being found to be cystic were removed with the broad ligament cyst, which was of considerable size, and contained twenty-five pounds of fluid. The patient made a good recovery.

Dr. Cabot pointed out how easily the parovarian cyst would have shelled out of the broad ligament had not the disease of the ovary required its removal also. One ovary was about the size of half a lemon, the other as big as a large orange; both were thoroughly cystic (multilocular). The parovarian cyst was a great unilocular sac, thin walled, and the specimen of fluid from it was as clear as water, and contained almost no albumen, but abundant chlorides.

DR. J. W. ELLIOT remarked that he was very much interested in Dr. Cabot's specimen; that the presence or pressure of an ovarian tumor seemed to favor the occurrence of cysts in the other ovary. Dr. Elliot farther remarked that he had recently removed an ovarian tumor which had so grown down into the broad ligament that he found it necessary to enucleate it from under the peritonæum; that in this case the other ovary was so much enlarged that it was supposed to be cystic, and was accordingly removed, but upon examination no cyst was found. The patient made a good recovery. Dr. Elliot also referred to another case, operated on one month ago, where he found a dermoid cyst, which contained a large quantity of hair, bone, and skin. He had intended to exhibit the specimen at this meeting, but had, unfortunately, forgotten to bring it. This dermoid cyst had been of rapid growth, only nine months. The only symptom had been constant uterine hæmorrhage. The tumor had been supposed to be a uterine fibroid. The patient made a quick recovery. The temperature was not above 99.8° F.

[1] See page 145 of this number of the JOURNAL.

COLD BATHS IN THE TREATMENT OF PNEUMONIA.

A recent contribution to the subject of this method of treating pneumonia is summarized from *Vratch*, by the *London Medical Record* (July 15th), as follows: — The author, Dr. M. K. Kiseleff, states that in 1880 forty-four patients with pneumonia were admitted to the Grozuyi Military Hospital; twenty-three of them were treated by cold baths, at the temperature of 28° R. to 26° R., with gradual cooling to 16° R. or 12° R. The baths were made daily, between four and six o'clock P. M., and lasted from ten to fifteen minutes. Before and after each bath the patients received from three to six ounces of sherry or *vodka* (*eau de vie*). The results were as follows: (1.) The mortality amongst the patients treated by baths was lower than amongst those left without baths (respectively 17.7 per cent. and 57.1 per cent.) (2.) The curves of morning and evening temperatures, the pulse and respiration, did not present any great differences; but while in the patients left without baths a high temperature lasted all day long, in those treated by baths it fell 1.5° C. to 3° C. for four or five hours daily. Further, the pulse after each bath decreased from ten to twenty beats, and pain disappeared. The respiration remained unchanged. (3.) Crisis in bath-cases occurred apparently earlier (in three cases on the third day, in two on the fourth, in two on the fifth, in two on the seventh, in two on the eighth, in five on the sixth, in one on the ninth, in four on the tenth, in two on the thirteenth; while in the cases left without baths crisis frequently occurred on the ninth day). (4.) Cold baths had no influence on the frequency of complications, but the latter ran a more favorable course. (5.) Recovery proceeded more rapidly (nineteen patients treated by baths recovered between the tenth and twenty-seventh day since the appearance of first symptoms). In 1881 and 1882, Dr. Kiseleff treated other forty-nine patients by cold baths. Only three (6.12 per cent.) died. Crisis occurred not later than on the eleventh day, most frequently on the sixth and ninth. The patients left the hospital in three or four weeks, being quite strong and sound. The author's general conclusion is, that cold baths present a powerful therapeutic agent in the treatment of pneumonia. He points also to such important advantages of baths as disappearance or diminution of pain, absence of delirium, advent of quiet sleep, etc.

Medical and Surgical Journal.

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THE RESCUE OF LIEUTENANT GREELY AND HIS SURVIVING COMRADES.

WE have just seen an effective illustration of the adaptability of the human constitution to all climates and temperatures, as well as its power to endure extreme privation, in the rescue from starvation and death of Lieutenant Greely and the remnants of his party, — a rescue the more remarkable that it was accomplished amid such dangers and brought deliverance out of such miseries, — and in the thrilling story of the hardships which this party underwent from the time that they abandoned Fort Conger, August 9, 1883, till they were found off Cape Sabine in Smith's Sound by Lieutenant Schley, July 4, 1884. During more than nine months the party lived on the scant allowance of food brought with them, and a small quantity found in *caches* left by other expeditions. When this was exhausted, — and the last regular rations were issued about the first of May, — they had to live on boiled seal-skin strips from their clothing, lichens, and shrimps. It is not a wonder that on such fare any died, it is a wonder that any survived.

A point of interest in connection with this history, is that at the time when Greely and his men left Fort Conger they were all well and in good spirits, and there is every probability that, could they have reached Littleton Island where there was abundant food stored away for them, they would all have been living at this day. For two years, then, these twenty-four American adventurers, born and nurtured in a temperate climate, and with constitutions not above the average in robustness (their leader had been somewhat shattered by malaria) withstood with impunity and even with physical advantage, in a latitude of 82°, the rigors of a climate where, according to Hartwig, "the average temperature of the winter generally ranges from — 20° to — 30°, or even lower, and for a great part of the year is able to convert mercury into a solid body."

The conditions whereby man is able to bear the excessively low temperature of an Arctic winter are stated in a very few words; a thick fur clothing; a hut, small and low, where the warmth of a fire, or simply of a train-oil lamp, is husbanded in a narrow space, and a copious supply of animal food, of flesh and fat. With the descent of the thermometer the internal processes of combustion are increased, for the air, condensed by the cold, furnishes more oxygen to the lungs; the circulatory system and the muscles experience a marked augmentation in tonicity; the appetite and digestion are stimulated to an extraordinary degree.

"The mysterious compensations," says Kane, "by which we adapt ourselves to climate are more striking here than in the tropics. In the Polar zone the assault is immediate and sudden, and unlike the insidious fatality of hot climates, produces its results rapidly. It requires hardly a single winter to tell who are the heat making and acclimatized men. Peterson, for instance, who has resided for two years at Upernavik, seldom enters a room with a fire. Another of our party, George Riley, with a vigorous constitution, established habits of free exposure, and active cheerful temperament, has so inured himself to the cold that he sleeps on our sledge journeys without a blanket or any other covering than his walking suit, while the outside temperature is thirty degrees below zero."

In connection with the means necessary to fortify the human system against extreme cold nothing is of more importance than suitable alimentation, and had Greely and his men been reduced in mid-winter to the extremes to which they were brought later in the year, when it was warmer, soups made of lichens and seal-skin boots could hardly have saved one of them. Indeed, the only nutritious substance available to them in that bleak and barren waste seems to have been shrimps, the most diminutive of decapods, and the supply even of these was quite insufficient.

The problem of the sustenance of human life in a condition of fair nutrition and vigor within the Arctic Circle seems to have been now decided in the affirmative, and we shall probably soon see the hazardous experiments of Lieutenant Greely and party repeated on a grander scale, and with greater precautions for safety. It must, however, be borne in mind that only the naturally robust and hardy are fitted to withstand the polar cold. The physician cannot safely recommend his cardiac, phthisical, or dyspeptic patients to try the tonic, bracing effect of a winter at Fort Conger, albeit exceptional cases might be benefited. Captain Ross has judiciously treated this question of constitution. "What good," says he, "to give fur garments to him who is incapable of engendering bodily heat?" He regards as certain that men who are endowed "with a great appetite and splendid digestion" are more fitted than others to produce animal heat. The "sanguine temperament is also a favorable condition, especially when it is accompanied with an energetic character, which habitually keeps up confidence, cheerfulness, and hope in the midst of the most trying circumstances."[1]

The "confidence, cheerfulness, and hope" are probably no less requisite to success in these arduous experiences than are the other qualities, personal and objective. In fact, the physiologist and the therapeutist recognize them as everywhere the foundation principles of a healthy and enduring vitality.

[1] Ross, Narrative of a Second Voyage, page 165. (Quoted by Longet, Traité de Physiologie, t. ii., p. 543.)

A NEW ANTIPYRETIC.

DR. PAUL GUTTMAN has lately introduced to the Medical Society of Berlin a new alkaloid, a derivative of quinoline, which bears a striking resemblance to quinine, while being more antipyretic than the latter. This medicament, which has been called *antipyrine* by Professor Filehne, has been obtained by Professor Knorr in the laboratory by way of synthesis. Antipyrine presents itself under the form of a white crystalline powder, very soluble in water, rather tasteless, easily tolerated by the stomach, especially when taken with wine or aromatics.

According to Professor Filehne this substance, exhibited in doses of two grammes every hour till six grammes are taken, is said to give constant antithermal results even when the fever is very high. The antipyretic action lasts from seven to nine hours, sometimes very much longer, and the pulse becomes less frequent. May has tried this new remedy in the hospital of Cologne in the treatment of typhoid fever, and is enthusiastic in its praises. In his practice it has proved superior to quinine. Rank expresses himself similarly as the result of fifty observations in the hospital at Stuttgart. Guttman's trials are, however, the most numerous, and they seem to have been the most thorough. His cases, reports of which he has made to the Society, number 120. Twelve of these were cases of typhoid fever, eight of pneumonia, three of scarlet fever, four of intermittent fever, etc. All these affections were complicated by a high fever. Given in the doses before mentioned (ʒss. per hour for three doses) antipyrine was observed always to cause a marked fall in the temperature, which lasted five or six hours and even longer. In the first hour which follows the administration of the medicine the temperature falls half a degree, and the decline goes on increasing during the second hour, and attains its maximum during the third. As the temperature lowers perspiration appears. No secondary unpleasant effects have been noticed, unless occasional vomiting be excepted. The medicament is very soluble in warm water, a half gramme of the latter dissolving one gramme of the alkaloid. In this form it may be administered hypodermically, and so introduced it exercises a speedy, safe, and efficient action. The only febrile disease in which antipyrine seemed to be without effect was intermittent fever.

When given in antifebrile doses this medicine has always been found to be free from the inconveniences which attend sulphate of quinine in large doses, such as headache and intoxication. It would seem from Dr. Guttman's experience to be of about half the strength of quinine, that is, to get the full antipyretic effect which you would derive from two grammes of quinine you must give four grammes of the other.

The cost of antipyrine is about two thirds of that of quinine. Dr. Guttman has expectations that, now that it can be produced synthetically from relatively inexpensive materials, there will soon be a considerable reduction in its price.

In the discussion which followed the reading of Dr. Guttman's paper Dr. Tillmans related his experience with the new medicament in the Charity Hospital. In general his observations confirm those of Guttman. He finds that patients enfeebled by chronic affections (suppurations, tuberculosis, etc.) are very susceptible to the action of antipyrine even in small doses. Antipyrine is on the whole admirably supported. It may be given for months together without the least harm resulting. Tillmans has, in fact, given it uninterruptedly for months to tuberculous patients, and has kept the temperature within very nearly the normal bounds.

In pneumonia it is necessary to give large doses, for otherwise you cannot control the temperature. In very bad cases of this disease Tillmans has brought down the febrile heat from 40.1° C. to 37.8° C. in six hours, by giving during this time seven grammes of antipyrine, and this reduction of temperature has lasted twelve hours.

In one case of typhoid fever Tillmans gave antipyrine from the beginning to the end of the malady, and kept the temperature almost within the normal limits.

Guttman has invariably found when giving antipyrine that when the fever again rises after the effect of the medicine passes off the elevation of temperature is not attended with a chill, as is the case when kairine is given. The same fact has been confirmed by Falkenshein.

A trial of the medicine at the Boston City Hospital during the last three months confirms, as far as the experiments go, these observations and conclusions. Three successive hourly doses of thirty grains cause not unfrequently a fall in temperature of four to six degrees, the subsequent maximum not being attained for eight to twelve hours, and then being less than the initial temperature. No inconveniences have been experienced.

On the whole the profession seems to have in antipyrine a febrifuge of no little promise. It is to be regretted, however, that its originator should not have felt it unworthy of German science to cover the discovery with a patent.

MEDICAL NOTES.

— In a recent number of the *Lancet* Alexander Harkin states that a painful area normally exists upon percussion over the fourth and fifth dorsal vertebræ. This pain is described as "peculiar; some compare it to an electric shock diffused over the chest and arms, others liken it to the tingling sensation caused by a knock upon the ulnar nerve at the bend of the elbow, and all declare that it is of a most disagreeable nature." He has examined a large number of children and adults, male and female, and finds it constantly present.

— In 1835 Toulon lost 1656 inhabitants from cholera; in 1849, 751; in 1854, 1135; in 1865, 1331. The inhabitants remember that on former occasions

the disease made its appearance in a mild, insidious form, and suddenly rose to an alarming degree of intensity.

— At a recent meeting of the Berlin Medical Society photographs were shown by Professor Virchow of the gigantic plane tree in the Island of Cos, under the shade of which Hippocrates is said by tradition to have held medical consultations. The tree stands in the market-place of the town of Cos, on the east side of the island, and the branches, which spread over nearly the whole of the market-place, are supported by marble pillars.

— An ingenious model was exhibited before the Ophthalmological Society of the United Kingdom at its recent meeting, by Mr. J. Streatfeild, for demonstrating ophthalmic operations as well as other points of instruction to a class. The model was made on a scale exactly ten times that of the actual eye, and the models of the eye instruments were on the same scale excepting that the handles of the instruments had been altered and shortened. The apparatus, which consisted of the front of an eye, permitted of rotation in every direction, and the eye could be fixed in any desired position. The sclerotic and the eyelids were constructed of white felt. The cornea was made of stout glass of the right curvature. The iris was imitated in thin sheet India-rubber, with a round hole for the pupil. The cataractous lens was made of xylonite. The internal and external rectus muscles of the eye were represented by pieces of linen bandage. With this apparatus could be represented the *modus operandi* of peripheral section of the cornea, of iridectomy, of extraction of cataract, and of squint operations. The anterior chamber could only be entered for iridectomy, cataract extraction, etc., in the usual place, at the sclerotico-corneal junction. Here at any part of the upper half circumference the knife, forceps, pricker, or curette could be entered between the felt sclerotic and the glass cornea, which gave way for their admission, and resumed its natural position when the instrument was withdrawn. The sheet India-rubber, of which this imitation iris was made, could be seized with the (model) iris forceps at any part, drawn out of the eye, more or less, and so much cut off as might be desired in the demonstration. Mr. Streatfeild illustrated his remarks by performing a cataract extraction on the model.

— In a town in Normandy lives an aged lady named Marie Durant, much visited, who is believed to be one hundred and twenty-three years and a few weeks old, but who, when asked, with true feminine instinct declares she does not know. For ninety-six years she has been a widow, and during her lifetime four kings have ruled, the stars of two emperors have risen and set, and three republics have been established. She lives exclusively on vegetable diet, but is always ready for a *petit verre* of cognac, and says she would have died but for frequent doses of it during a recent illness. Her skin is brown and wrinkled, and all the flesh seems to have disappeared from under it, though there are still small veins of color on her withered cheek.

— *A propos* of guess-work, the *London Medical Times* remarks (July 12th): Every great scientific theory has commenced in a guess, or, to speak of it more respectfully, a flash of genius or inspiration. That theories, medical or otherwise, are merely convenient guesses at truth, to be employed as working hypotheses, liable to modification or rejection as further facts are brought to light, essentially forms the distinction between a scientific and an unscientific guess. Every diagnosis is at first more or less of a guess. The original guess may be raised to a high condition of probability by the course of disease, by alterations of temperature, the development of physical signs, the appearance of a rash, etc., but frequently these may be misleading, and absolute certainty can be obtained only by post-mortem examination. A riddle may have numerous answers besides the right one. In disease a consideration of the same data may lead to a dozen different conclusions. It would be painfully interesting if the commentaries written by the candidates at such an examination as that for the London M. D. were published collectively. It is notorious that the diagnoses arrived at from the same facts vary considerably, and much ingenuity must be expended in endeavoring forcibly to twist these stubborn articles into a pillar of strength, in which, it may be, every particle is proclaiming its protest against misuse. In the examinations of our daily life, however, guess-work must always play an important part, its value depending largely on the degree of flexibility exhibited by the medical man. He who starts with a wrong diagnosis, and refuses to modify his originally expressed opinion, in view of fresh facts, will more certainly lose the confidence of his patients than he who frankly admits his error. Guess-work, invaluable as an aid when scientifically used, only becomes a direct evil when it leads to an uncompromising dogmatism.

— Pelizaeus examined 2,403 children between the ages of six and thirteen, with respect to the presence or absence of the patella reflex. Out of all these children there was only one boy in whom he was never able to obtain the patella reflex, in a few others in whom it was not present at the first examination it was always found on subsequent trials. The boy in whom it was absent was apparently in perfect health. These results are very different from those obtained by Eulenburg and Berger, who found an absence of patella reflex in 4.8 and 1.56 per cent. of the children examined. — *Archiv für Psychatrie*, etc., Bd. xiv., Hft. 2.

— Somnambulism is one of the subjects to be taken up by the committee for the collective investigation of disease in England.

— Dr. E. L. Keyes [1] gives the result of his experiments in a number of cases of gonorrhœa with some of the methods of treatment which have recently been recommended, especially those by hot water and by corrosive sublimate. His temporary conclusions are as follows: (1.) A mild corrosive sublimate solution irritates the urethral mucous membrane more than it

[1] Journal of Cutaneous and Venereal Diseases, March, 1884.

seems to irritate an open wound. (2.) It appears that an abortive treatment of gonorrhœa is yet to be discovered. (3.) The hot water treatment of gonorrhœa is unreliable.

— Mr. Lawson Tait reports in the *Lancet* (July 12th) two cases of remarkably high temperature taken by several observers and verified by himself, four independent thermometers agreeing in the record. In one case of a woman with chronic ovaritis a full temperature record is presented covering a period of two weeks; enormous variations are shown, from 99° upwards. Twice the temperature was 106°, once 107° twice 108°, three times 109°, six times 110°, and four times 111°. Another woman from whom both ovaries had been removed for cystoma showed a temperature at one time, verified like that in the other case by different observers and instruments, of 111°. There were no other untoward symptoms, and she made a good recovery.

— Under the new regulations for Government Life Insurance, says the *Lancet*, a novel experiment is being tried, the result of which will be watched with interest. Insurances for sums not exceeding twenty-five pounds are now granted at any post-office savings bank without any medical examination. If, however, an insurant should die before the second annual premium becomes payable, the amount of the first premium, and no more, will be paid to his representative; should the insurant die after the payment of the second, but before the third premium becomes due, the representatives will be paid only half the amount of the policy. After the payment of the third premium the policy is entitled to full benefit. It is nevertheless provided that in case of death within two years of an insurant who has not been medically examined, if it can be proved to the satisfaction of the Postmaster-General that the death was caused by accident, the full amount of the policy will be paid. Persons proposing to insure for sums not exceeding twenty-five pounds, and preferring that their policy should have the full benefit of insurance at once, can undergo a medical examination by payment of a fee of half a crown to the medical examiner. The rules do not explain the nature of the arrangement by which the fee for medical examination to be paid by the insurant is to be supplemented. The new system by which insurances may be granted through post-office savings banks affords great facilities for industrial insurance combined with absolute security, which, it may be hoped, will commend the system to the working classes. In view of recent abuses which have come to light in the insurance of children, it is worthy of observation that no insurances will be granted upon the lives of children under eight years of age, and the amount is limited to five pounds for children aged between eight and fourteen years.

— The experiments which M. Pasteur is reported thus far to have made with hydrophobia are said to be an unbroken success. Fifty-seven dogs have been the subjects of investigation. Of these nineteen were rabid, and by these thirty-eight healthy animals were bitten under uniform conditions. Of the thirty-eight, one-half the number had been previously inoculated or "vaccinated with attenuated virus; the other half had not. The latter, without a single exception, died with unequivocal signs of rabies, whereas the nineteen others remain as well as ever. They will be watched for a year by veterinary surgeons to see whether the inoculation holds good permanently or only temporarily.

Correspondence.

"NEPOTISM AT THE MASSACHUSETTS GENERAL HOSPITAL."

MR. EDITOR, — I believe the readers of the JOURNAL appreciate its sense of humor and are grateful for its attempts to soften the asperities of life. Perhaps they have never been treated to anything more amusing than the "Statement in Regard to the Charge of Nepotism at the Massachusetts General Hospital." It reminds one of the ludicrous attempts of an inebriated person to assure his friends that he is not intoxicated; or better still, of an individual charged by common rumor with intoxication, who takes pains to prove to the world that he is not dead drunk. The Massachusetts General Hospital is not yet old enough to appoint all its house pupils from the comparatively few families of its trustees and medical staff, and must fill up its quota from outsiders. Eight appointments in ten years of gentlemen who bear the well-known names of members of the staff is by no means a bad showing, but a candid statement in regard to the matter should not be confined to those degrees of relationship which are betrayed by identity of names.

It is often said that the appointments are influenced by favoritism, a word that includes nepotism and much more, and the "statement" expressly says that the appointments are not prizes to the best scholars and that the examinations are not intended to be tests of knowledge. Other qualifications are sought, and what can be more natural than that the nominating body should see those qualifications best marked in the sons of their friends and their friends' friends. The consequence naturally is that students rely upon other means than scholarship to gain the coveted positions. Occasionally a man forces his way in, so to speak, by superior scholarship, provided he takes care to exhibit also those other qualifications mentioned in the statement and it happens to be an "off year" for favorites. The names alone in any list of internes does not cover the ground. To fully understand the matter it would be necessary to recall the history of each year; to learn who was not appointed and the various reasons which influenced the individual members of the nominating and appointing bodies in making the several appointments.

But it is hardest of all to understand why any excuse or statement is necessary in regard to the matter. No hospital management would consent to have its house officers appointed by lot, and there are but two other ways — as the result of an examination, which *is* a test of knowledge, or by the arbitrary choice of the appointees. The first method is the most feasible in hospitals maintained at public expense; a private institution may adopt either method, and, though it is pleasing to the friends of a hospital to feel that its

favors are bestowed in such a manner as to encourage true scholarship, there is much to be said in behalf of the favoritism method. Why should not the wishes of a man who helps financially to sustain the institution be regarded? Why should not a physician or surgeon be influenced by the wishes of his dearest friend or most profitable patient? The question is not intended even to suggest improper influence, but simply to say that the gentlemen referred to are subject to like influences as other men, and they cannot help trusting the children of their friends, who have grown up around them, rather than the strange young men who may be equally good, but whom they do not know.

Certainly this much must be said, internes appointed by vote are much more likely to be amenable to control than those who have compelled their appointment by virtue of a superior examination. A certain feeling of pride is natural to a man who has come off victorious in a contest, either mental or physical, with his fellows, and the winner of a hospital examination is probably a little more ready to criticise and instruct his visiting physician or surgeon than the man who owes his place to favor; and nobody supposes that the hospital suffers from the present method. Favoritism also gives a chance to those individuals who have not the ability or the industry to pass an examination, but do possess the faculty for learning by experience, and make, in the end, some of our finest practitioners.

Each method has its advantages, and each its disadvantages; neither can escape criticism, but neither needs to justify itself by showing that it is not the other.

X. Y. Z.

THE PLASTER-POSTERIOR SPLINT.

KEENE, N. H., *August* 6, 1884.

MR. EDITOR: *Sir*, — My attention has been called to the foot-note appended to a very interesting article by Dr. George W. Gay in the *Boston Medical and Surgical Journal* of July 24th, in which is said: "A practical demonstration of the plaster-posterior splint was made before the Society by Dr. R. A. Kingman, of Boston, who perfected and brought it into use in this vicinity while he was house surgeon at the City Hospital in 1881. The efficiency and popularity of the splint are largely due to Dr. Kingman's skill and ingenuity."

Will you kindly allow me to object to the idea of any great amount of ingenuity being shown by my friend Dr. Kingman in regard to this splint, and I feel sure he will agree with me in the objection.

Nearly five months before Dr. Kingman entered the City Hospital, Dr. George Goodhue, of New York, told me of this splint as having been successfully used in the New York hospitals, and from that time on Drs. Cutter, Bullard, Squires, and I used it, as needed, continuously and successfully, and the splint so minutely described by Dr. Gay is to all intents and purposes identical with the first one applied, February 22, 1881, by Dr. Cutter and myself, under the supervision of Dr. Goodhue; and the hospital records describe the use of this antero-posterior splint by the house surgeons many times before July 4, 1881, on which day Dr. Kingman entered the hospital as surgical interne. The point I wish to make is that, in view of these facts, it seems hardly fair to ascribe to Dr. Kingman's skill and ingenuity the "efficiency and popularity of this splint."

Very truly yours,

GEORGE H. BRIDGMAN, M. D.

Miscellany.

THE DIAGNOSIS OF MITRAL CONSTRICTION.

SIMPLE mitral constriction, remarks a writer in the *Medical Times and Gazette* January 5, 1884, is of far more frequent occurrence than is generally allowed, and its diagnosis probably presents greater difficulties than any other serious lesion of the valves on the left side of the heart. We exclude from consideration cases which are complicated by regurgitation, because the latter, when advanced enough to produce grave symptoms, is easily detected; and the presence of constriction as well in such cases is not of great practical importance. But when, as not rarely occurs, the question is whether stenosis of the mitral orifice be present, and the cause of serious symptoms, or whether the heart be healthy, and the distress and danger due to other conditions, accurate diagnosis becomes a matter of the utmost moment. In a typical case the observer feels a thrill at the apex preceding the impulse of the heart; he hears at the base a clear second sound over the aortic valves, an exaggerated one to the left of the sternum, and at the apex a rolling presystolic murmur, gradually increasing in intensity and leading up to a short and sharp first sound, which is not succeeded by any appreciable second sound. The diagnosis of mitral stenosis under such circumstances admits of little doubt. But in a second series of cases both murmur and thrill may be absent, and the heart's action regular, and the difficulty of detecting the disease then becomes great. The most striking auscultatory phenomena are accentuation of the second sound at the base to the left of the sternum, and, what is of much greater importance, a peculiar hesitation in the production of the first sound, a kind of "hanging fire," which is easier for the experienced auscultator to appreciate than to describe. Whatever be its origin, whether it be a faint sound caused by the blood passing through the constricted orifice into the ventricle, and so practically a murmur, or be due to a slowly beginning, though suddenly ending, ventricular contraction, it is a phenomenon which at once strikes the ear and suggests the nature of the disease. In these and all other cases of suspected constriction of the mitral orifice, the detection, if possible, of increase in size of the left auricle and right side of the heart yields valuable corroborative evidence. There is a third class of cases, in which there may be no murmur, no thrill, no hesitating first sound, but extreme irregularity of cardiac action, the beats being very frequent and very irregular both in rhythm and in force; so much so that a great many of them produce no pulsation at the wrist. In some cases as many as half the beats of the heart are not felt in the radial artery, so that the pulse there may be moderate in frequency, although the cardiac contractions succeed each other with extreme rapidity. Similar phenomena may likewise be observed in cases of simple dilatation of the heart with degeneration of its walls, such as occurs, for example, in chronic bronchitis and emphysema; but then the patient is usually past middle life. If grave cardiac symptoms be found in a comparatively young person, and if auscultation only reveal extreme irregularity in the heart's action, the presence of mitral stenosis ought to be at once suspected. The administration of digitalis in such cases not only often removes the patient's distress, and produces regularity and normal frequency of the heart's

beats, but also facilitates diagnosis. For when the heart's action gets slow and regular a presystolic murmur frequently makes its appearance. Finally, there are cases of considerable mitral constriction which produce no sufficiently well-marked morbid phenomena to enable the observer to detect the presence of heart disease. But the pathologist not infrequently meets with these narrowed orifices in the post-mortem room in patients who have died from other diseases. The reflection is then forced upon him, how extreme some pathological conditions require to be before they come within range of our present powers of diagnosis.

LATE MARRIAGES.

DR. F. STEINMANN, of St. Petersburg, has recently published, says the *Lancet*, the results of his researches into the question of how far childbirth and lying-in are unfavorably affected by the primipara being old when she first becomes a mother. The estimate of the time when a primipara is called old varies between twenty-five (Fasbender) and thirty-five years (Mangiagalli), but Dr. Steinmann accepts that which most authorities have adopted, namely, thirty years. From twelve years' statistics of the St. Petersburg Maternity Hospital, during which time there were 28,279 deliveries, it appears that there were in that period 645 old primiparæ. Of this number a fraction over 69 per cent. were thirty to thirty-four; 26.2 per cent., thirty-five to thirty-nine; and 4.2 per cent., forty years and over; one of these was fifty-two years old. In 1875, when the general mortality was three and a half per cent., that of old primiparæ was nearly fourteen per cent.; and again, in 1881, when the general mortality was only one half per cent., that of the old primiparæ was eight per cent. A decidedly greater fœtal mortality when primiparity is late is also shown by the statistics collected by Dr. Steinmann, and, although the subject demands more attention from the profession than it has heretofore received, the facts adduced by him furnish strong reasons for objecting to late marriages.

SURGICAL TRIUMPHS AND OPERATIVE AUDACITIES.

MR. A. JACKSON, of Sheffield, England, at the completion of a quarter century of incumbency of the lectureship on surgery at the Sheffield School of Medicine, made an address on A Quarter of a Century's Surgery: Its Lessons, its Failures, its Disappointments, its Prophecies,[1] which is of value as presenting the view of one who is evidently a conservative as to what is of permanent value in the so-called advances of surgery in the past generation. We subjoin the following extracts: —

After premising that "the great commotion or progress — whichever view be taken of it" — of this period is largely due to two factors — anæsthetics and antiseptics — and granting the enormous value of the former in operation as well as in diagnosis, he goes on to say: "But while chloroform and antiseptics have had their advantages, have they done no harm? I think they have. What a terrible tale would abdominal sections tell, were they all recorded *accurately*, after the able method of Sir Spencer Wells! How often have they been done unsuccessfully! I am not alluding to ovariotomy, for that is one of the few successes of the last twenty-five years — a success founded upon a rock which neither the winds of fashion nor the fickleness of the English people will ever shake. I am alluding more particularly to the exploratory operations for the relief of internal strangulation; for the relief of pain; for caries of the spine; and also to those cases where portions of the stomach and intestines have been removed, gastrostomies performed, etc., etc. As Mr. Erichsen puts it, 'Will the surgery of our time record "surgical triumphs or operative audacities?"' May I substitute the word 'atrocities?'

"Far be it from me to say that these operations are wholly unjustifiable. I have sinned — in my opinion — many times. But is it not time to pause and consider whether they are justifiable; whether they are successful sufficiently often to continue them; and to try and perfect our diagnosis before we make this a permanent operation. Syme, fifty years ago, used the word gastrostomy, and condemned the operation; and I think we are bound to have stronger reasons than we have at present for running counter to the judgment of one of the greatest surgeons of the century.

"The St. Bartholomew Hospital Reports (1884) record twenty-one abdominal sections, with nineteen deaths, exclusive of ovariotomies. . . .

"With regard to the treatment of diseases of bones and joints, more particularly the hip, the knee, and the tarsal bones, are we where we were twenty years ago? With regard to the hip-joint and the tarsal bones I think we are. The recognized modes of treatment of the hip-joint have failed. I do not mean in every case, but in the majority. I think excision of the head of the femur has failed because enough bone has not been removed, and it has not been resorted to early enough; but so far as I know at present it is the only mode of treatment with any chance of success except in the early stages. Excision of tarsal bones or gouging them out may also be classed amongst our failures; and I would urge a more frequent resort to Syme's operation.

"Every department in surgery has been harassed and unsettled; no one knows better how much has been done in this way than the unfortunate man who has to lay down laws for the students in lecture; for in the very outset, with regard to the treatment and dressing of an incised wound, the treatment of a fracture, there are no rules, no laws; each man does that which is right in his own eyes, and there are almost as many different methods of treatment as there are clinical teachers.

"Each hospital has its own particular way of treating broken bones. We have the same miserable sequelæ, ankylosed joints, œdematous legs, pain, thickening, want of power, as formerly; and no one stops to think if anything can be done to prevent their occurrence.

"Oh, that several workhouse medical officers would write a book on the Sequelæ of Hospital Surgery. Such a book, with a hospital surgeon's account of his mistakes, would do more to advance surgery than the publication of so many successful cases. The treatment of empyema is now one of the burning questions of the day; and we find men advocating the removal of a portion of not one rib only, but of four or five; and we are asked to consider the propriety of draining

[1] Medical Press, July 9, 1884.

pulmonary vomicæ, and the removal of portions of lung. 'Are these surgical triumphs or operative audacities?' . . .

"In a deal that is now called new and brought forward as instances of progress, we are now only returning to the modes of treatment suggested and practiced in days gone by. The ligature of the sac for the radical cure of hernia was many years ago practiced by the elder Teale. Cystotomy for irritable bladder was introduced by Paget, of Leicester. The kidney was successfully removed twenty-five years ago; osteotomy twenty-four years ago.

"To sum up, I am inclined to think that, in future, we shall find surgery stepping in and dealing successfully with ruptured bladders, perforating ulcer of the stomach, and kidney diseases; but I do think we ought to make a stand against performing large operations on internal cancers until we know more about their laws of recurrence. I think we ought to watch with very great jealousy the results of our osteotomies, our abdominal sections, and drainage of pulmonary vomicæ. We ought to try to find out what is the best treatment for spinal disease and diseases of bones and joints in their early stages; to invent some more satisfactory way of treating fractures; and to publish more of our unsuccessful cases."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 2, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	726	380	36.68	14.28	24.68	.84	2.52
Philadelphia	927,995	454	225	26.84	13.64	19.14	1.76	1.98
Brooklyn	644,526	308	195	21.15	7.92	42.57	—	1.65
Chicago	632,100	320	212	52.39	6.51	38.13	3.41	5.89
Boston	423,800	245	130	48.15	10.35	35.10	3.15	1.35
Baltimore	408,520	157	84	33.28	14.08	20.48	3.20	3.84
St. Louis	400,000	177	90	30.80	5.60	21.12	3.20	3.20
Cincinnati	272,400	93	39	27.82	7.49	16.05	5.35	—
New Orleans	234,000	133	44	46.64	—	12.58	—	.74
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	92	40	25.92	14.04	19.44	3.24	1.08
Pittsburg	180,000	86	53	45.18	8.12	32.54	2.32	4.64
Milwaukee	142,400	92	78	48.60	2.16	44.28	1.08	1.08
Providence	119,405	48	26	39.52	4.16	33.28	2.08	—
New Haven	62,882	33	18	54.54	—	42.42	3.03	—
Nashville	54,400	36	17	38.78	11.31	27.77	2.77	—
Charleston	52,286	37	14	18.90	29.70	13.50	2.70	—
Lowell	71,447	39	21	38.40	15.36	35.84	—	—
Worcester	69,442	20	12	40.00	15.00	30.00	5.00	5.00
Fall River	62,674	38	26	50.00	—	44 71	—	—
Cambridge	60,995	31	13	19 32	19.32	16.11	—	—
Lawrence	45,516	22	15	45.45	9.08	45.45	—	—
Lynn	44,895	21	13	33 33	19.04	33.33	—	—
Springfield	38,090	18	11	72.22	5 55	55.55	5.55	5.55
Somerville	31,350	17	9	58.88	5.88	58.88	—	—
Holyoke	30,515	10	7	50.00	—	40.00	—	—
New Bedford	30,144	13	7	53.83	7.69	46.14	7 69	—
Salem	29,503	—	—	—	—	—	—	—
Chelsea	24,347	9	4	11.11	11.11	—	—	—
Taunton	22,693	8	0	—	—	—	—	—
Gloucester	21,400	10	5	30.00	20.00	30.00	—	—
Haverhill	20,905	7	4	42.84	14.28	42.84	—	—
Newton	19,421	9	1	33.33	22.22	22.22	—	11.11
Brockton	18,323	4	1	—	50 00	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	5	2	40.00	40.00	40.00	—	—
Fitchburg	13,433	—	—	—	—	—	—	—
Eighty-eight Massachusetts towns	—	46	4	—	21.74	—	—	—

Deaths reported 3364 (no report from Buffalo): under five years of age, 1800; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases), 1040, diarrhœal diseases 705, consumption 360, lung diseases 138, diphtheria and croup 77, whooping-cough 57, typhoid fever 57, malarial fevers 44, measles 38, scarlet fever 31, cerebro-spinal meningitis 15, erysipelas six, puerperal fever six, small-pox three, typhus fever one. From *whooping-cough*, New York 19, Boston 12, Brooklyn 10, Philadelphia five, Baltimore, District of Columbia, and Nashville two each, St. Louis, Cincinnati, Pittsburg, Milwaukee, and Providence one each. From *malarial fevers*, New Orleans 15, St. Louis 12, Brooklyn six, Baltimore five, New York four, Charleston and Chelsea one each. From *measles*, New York 18, Chicago seven, Philadelphia four, Brooklyn and Pittsburg three each, Boston, Cincinnati, and New Orleans one each. From *scarlet fever*, New York seven, Philadelphia six, Chicago and Boston four each, Cincinnati and New Haven two each, Brooklyn, Baltimore, Pittsburg, Providence, Lowell, and Cambridge one each. From *cerebro-spinal meningitis*, New York three, Philadelphia and Fall River two each, Chicago, Boston, Baltimore, St. Louis, Cincinnati, Nashville, Springfield, and Holyoke one each. From *erysipelas*, New York two, Chicago, Cincinnati, Milwaukee, and New Haven one each. From *puerperal fever*, Chicago three, Brooklyn, Boston, and St. Louis one each. From *small-pox*, New Orleans two, Philadelphia one. From *typhus fever*, New York one.

Cases reported: scarlet fever 42, diphtheria 22, typhoid fever nine, and measles four in Boston; scarlet fever 31, and diphtheria seven in Milwaukee.

In 106 cities and towns of Massachusetts, with an estimated population of 1,528,732 (estimated population of the State 1,955,104), the total death-rate for the week was 19.11 against 21.54 and 17.68 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,620,975, for the week ending July 26th, the death-rate was 24.0. Deaths reported 4031: acute diseases of the respiratory organs (London) 177, diarrhœal diseases 838, whooping-cough 129, measles 117, scarlet fever 83, fever 36, diphtheria 29, small-pox (London 23, Liverpool and Sheffield one each) 25. The death-rates ranged from 14.0 in Bristol to 34.6 in Leicester; Birkenhead 16.6; Birmingham 20.7; Bradford 17.2; Leeds 27.3; Liverpool 27.1; London 26.1; Manchester 24.2; Nottingham 29.2; Sheffield 26.7. In Edinburgh 17.6; Glasgow 26; Dublin 21.9.

For the week ending July 19th, in the Swiss towns, there were 43 deaths from diarrhœal diseases, consumption 33, typhoid fever 20, lung diseases 14, diphtheria and croup three, scarlet fever one, erysipelas one. The death-rates were, at Geneva 25.5; Zurich 11.8; Basle 21.4; Berne 22.2.

The meteorological record for the week ending August 2d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date. July–August, 1884.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 27	29.971	60	67	56	90	81	95	89	SE	E	NE	4	16	19	F	O	R	—	—
Mon., 28	29.936	60	66	54	93	72	91	85	NW	SE	SW	10	9	4	O	F	C	—	—
Tues., 29	29.856	58	63	56	100	100	100	100	SE	E	N	5	18	9	R	R	R	—	—
Wed., 30	29.813	62	73	55	98	82	95	92	N	SE	W	10	7	10	O	F	C	—	—
Thurs., 31	29.781	70	82	63	87	67	100	85	SW	S	SW	7	17	7	C	O	O	—	—
Fri., 1	29.948	71	82	65	79	44	73	65	NW	W	W	11	8	6	F	C	F	—	—
Sat., 2	30.140	71	82	62	68	37	83	63	NW	W	W	7	8	8	F	C	F	—	—
Mean, the Week.	29.921	64.6	73.0	59.0				82.7										27.50	1.89

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM AUGUST 2, 1884, TO AUGUST 8, 1884.

WOODWARD, Jos. J., major and surgeon. Sick leave of absence extended six months. Paragraph 9, S. O. 178, A. G. O., July 31, 1884.

GIBSON, J. R., major and surgeon. Granted leave of absence for one month and fifteen days. S. O. 36, headquarters Division of the Atlantic, August 4, 1884.

HEIZMANN, C. L., captain and assistant surgeon. Relieved from duty at Columbus Barracks, Ohio, and ordered for duty in Department of the East. Paragraph 2, S. O. 150, A. G. O., August 2, 1884.

MCCREERY, GEO., first lieutenant and assistant surgeon. Leave of absence extended two months. Paragraph 4, S. O. 180, A. G. O., August 2, 1884.

TAYLOR, A. W., first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Riley, Kansas. Paragraph 1, S. O. 153, headquarters Department of the Missouri, July 29, 1884.

HOPKINS, W. E., first lieutenant and assistant surgeon. Granted one month's leave of absence, with permission to apply for one month's extension. Paragraph 1, S. O. 67, headquarters Department of Arizona, August 1, 1884.

BENHAM, R. B., first lieutenant and assistant surgeon. Assigned to duty at Fort Brown, Texas. Paragraph 1, S. O. 90, headquarters Department of Texas, July 19, 1884.

GANDY, C. M., first lieutenant and assistant surgeon. Granted leave of absence for one month, — to commence between August 15th and 30th, — provided he furnish medical attendance at Fort Brady, Mich., during his absence. Paragraph 5, S. O. 154, headquarters Department of East, July 30, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE THREE WEEKS ENDING AUGUST 9, 1884.

HARMON, G. E. H., passed assistant surgeon. Ordered to temporary duty at Norfolk Navy Yard.

SAYRE, J. S., assistant surgeon. Ordered to U. S. S. Independence.

BOOKS AND PAMPHLETS RECEIVED. — Twenty-ninth Annual Report upon the Births, Marriages, and Deaths in the City of Providence for the Year 1883. By Edwin M. Snow, M. D., City Registrar. Providence. 1884.

Post-Partum Uterine Injections of Carbolic Acid. An Inquiry into their Propriety. Read before the Indiana State Medical Society. By H. v. Sweringen, A. M., M. D. Fort Wayne, Ind., June 11, 1884.

Fifth Annual Announcement and Catalogue of the College of Physicians and Surgeons, Boston. Session of 1884–85.

Forty-Third Annual Announcement of the St. Louis Medical College. Winter Session, 1884–85, etc. 1884.

Proceedings of the Sanitary Conference of State Boards of Health. Held at New Orleans, La., June 2–4, 1884.

Woman's Medical College of the New York Infirmary. Sixteenth Annual Catalogue and Announcement, June, 1884.

Trachoma and the Ætiology of Jequirity Ophthalmia. By J. A. Andrews, M. D. New York. (Reprint.)

Report of the Board of Managers of the Pennsylvania Hospital to the Contributors, at their Annual Meeting, held 5th Month 5, 1884. Philadelphia.

Manual of Physiology. A Text-Book for Students of Medicine. By Gerald F. Yeo, M. D., F. R. C. S., Professor of Physiology in King's College, London, etc. Philadelphia: Henry C. Lea's Son & Co. 1884.

An Introduction to Pathological and Morbid Anatomy. By T. Henry Green, M. D. Lond. Fifth American from the Sixth Revised and Enlarged English Edition.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Œsophagus, Nose, and Naso-Pharynx. By Morell Mackenzie, M. D. London. Vol. II. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1884.

Official Report of the Relief Furnished to the Ohio River Flood Sufferers. Evansville, Ind., to Cairo, Ill., etc. By R. P. M. Ames, A. M., M. D. 1884.

Seventh Annual Report of the Managers of the Adams Nervine Asylum. 1884.

Phthisis Pulmonalis, etc. By L. H. Wood. Denver, Colo.

Première Application à Paris en 1883 de l'Assainissement Suivant le Système Waring. Par Ernest Pontzen, Ingénieur Civil. Paris. 1884.

Materia Medica and Therapeutics. An Introduction to the Rational Treatment of Disease. By J. Mitchell Bruce, M. A. Aberd., M. D. Lond. Philadelphia: Henry C. Lea's Son & Co. 1884.

Original Articles.

THE VALUE OF PROBABILITIES IN MEDICAL RESEARCH.

BY F. J. B. CORDEIRO, M. D.,
Assistant Surgeon U. S. Navy.

BY probability we understand the projection of the past into the future, — a process by which we avail ourselves of bygone experience. Or probability and experience are two ends of a connected series vanishing in one direction into the future, the other into the past. The end spanning the future we can liken to a bridge springing out into the air from a buttress, and this buttress is the past. The farther back the buttress extends the longer out can we build our bridge. The word "probably" occurs constantly throughout Medicine, and what word could occur more properly in one of the less exact sciences? It was latest in my ears when Dr. Warren, in determining whether or no a needle was in the foot of his patient, said, "Two halves of a needle were seen before the accident, afterwards only one. The probability would have been greater if a whole needle had been seen before the accident and a half afterwards." Such a case is easily dealt with by common sense, as we say. Not so simple is the following: Suppose the obturator artery arises from the epigastric once out of every two subjects in the female, and once out of every five in the male. Suppose that when so arising it goes to the inner side of the crural ring, in the proportion of one out of eleven subjects. Suppose it arises by two trunks, one of which is from the epigastric, in one out of seventy-two subjects. Suppose the above anomalies occur unilaterally four times to every time they occur bilaterally. What, then, is the danger of wounding the obturator artery in operating for crural hernia in a given case? The theory of probabilities gives us readily

For female,
$\text{Danger} = (\frac{1}{2} \cdot \frac{1}{11} + \frac{1}{72} \cdot \frac{1}{11})\ (\frac{1}{5} + \frac{4}{5}) = .0255.$
For male,
$\text{Danger} = (\frac{1}{5} \cdot \frac{1}{11} + \frac{1}{72} \cdot \frac{1}{11})\ (\frac{1}{5} + \frac{4}{5}) = .0106.$

That is, if the statistics are correct, the accident will happen 255 times out of every 10,000 females operated on, and to 106 males out of every 10,000.

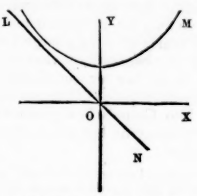
If we measure a quantity a given number of times we shall have as many errors as we make measurements. These errors will vary in magnitude. If we make an infinite number of measurements we shall hit as often above as below the true value, and by as much, that is, for any number of errors of a given magnitude with a plus sign, we shall have as many of a like magnitude with a minus sign. In other words, if we were to measure an angle a very large number of times with the plainest kind of quadrant, we should get a more accurate result than from a few measurements by the most elaborate verniers and micrometers, provided the instrumental errors in each were equal. And we should get an absolutely accurate result from our imperfect instrument, provided we made an infinite number of observations. Thus, like Jason's horde sprung from the dragon's teeth, our errors annihilate each other.

Let x be an error, carrying with it its sign. We can formulate our law above $\Sigma x = o$. This is the law of the Arithmetic Mean. Let us integrate the expression $x_1 + x_2 + x_3 \ldots + x_n = o$. We have $\int \Sigma x\, dx = \frac{1}{2} \Sigma x^2 + C$.

It follows that Σx^2 is a minimum for $\Sigma x = o$. This is easily seen also by the following. If we shift our origin to a point x_o, the residuals of the measurements will be $x - x_o = x'$.

$\Sigma x'^2 = \Sigma x^2 - 2 \Sigma x x_o + n x_o^2$. But $\Sigma x = o \therefore \Sigma x'^2 = \Sigma x^2 + n x_o^2$. Hence $\Sigma x'^2$ is a minimum only when $\Sigma x'^2 = o$. This is the principle of Least Squares.

The function $\Sigma x'^2$ changes value with change of origin, according to the law



$$\Sigma x'^2 = y = C + n x^2,$$

that is, it shifts in the parabola $L\,M$, as per figure. The function $\Sigma x'$ shifts in the line $L\,N$.

It is important to bear in mind, as is easily seen by the simple proof above, that the law of the Arithmetic Mean and the principle of Least Squares are absolutely true only for an infinite number of observations. For a small number of observations their value is not great, but their accuracy and *applicability* increase rapidly as the observations increase.

Let us now consider if the proportions in which errors of different magnitudes occur is subject to law for an infinite number of observations. I give here Gauss's beautiful demonstration of this point.

Let $y = f(x)$ be the probability of the occurrence of the error x. The probabilities of various errors x_1, x_2, x_3, etc., then are $f(x_1), f(x_2), f(x_3)$, etc. The probability of the simultaneous occurrence of these errors is the product of their separate probabilities.

$$\text{Let } P = f(x_1), f(x_2), f(x_3), \text{ etc.} \qquad (1.)$$
$$\text{Then } \log P = \log f(x_1) + \log f(x_2) + \text{etc.} \qquad (2.)$$

Now the absolute values of x_1, x_2, x_3, etc., being unknown, we wish to determine the most probable system of values. Of all possible systems, that one is most probable which makes P a maximum. Differentiate (2),

$$\frac{d\,P}{P} = \frac{d\,f(x_1)}{f(x_1)} + \frac{d\,f(x_2)}{f(x_2)} + \text{etc.} \qquad (3.)$$

Let $d\,f(x) = \phi(x), f(x), dx$ where ϕ is some form of function. Substitute in (3) and equate to o.

$$\frac{d\,P}{P} = \phi(x_1)\,d\,x + \phi(x_2)\,d\,x + \text{etc.} = o. \qquad (4.)$$
$$\therefore \phi(x_1) + \phi(x_2) + \phi(x_3) + \text{etc.} = o.$$

But $x_1 + x_2 + x_3 + \text{etc.} = o$ by the principle of the Arithmetic Mean. Hence ϕ means simply multiplication by some constant k. Hence

$$\frac{d\,f(x_1)}{f(x_1)\,d\,x} = k\,x_1$$
$$\therefore \frac{d\,y_1}{y_1} = k\,x_1\,d\,x$$
$$\text{Or, generally, } \frac{d\,y}{y} = k\,x\,d\,x.$$

$$\text{Integrating, } \log y = \frac{k\,x_2}{2} + k^1$$

$$\therefore y = e^{\frac{k\,x^2}{2}} e^{k^1} = c\,e^{-h^2 x^2},$$

where $c = e^{k^1}$ and $\frac{k}{2} = -h^2$. We derive, then, the law of the probability of error, $y = c\,e^{-h^2 x^2}$ — a remarkable result. Let us understand that this law is absolutely true only for an infinite number of observations, though nearly true for a large number. With a small number of observations chance wanders as it pleases: there is no law or semblance of law; but gradually, as the observations increase, chaos begins to marshal itself into Gauss's law, given above. There exists, therefore, either no law at all or an approximation to Gauss's law.

The following historical digression will not be without interest. The impression has prevailed among many writers, past and present, that various laws of probabilities might exist under different circumstances. Merriman[1] says, with Laplace, that he is unaware that any one has yet proved the *a priori* probability of the Arithmetic Mean. I quote: "It is distinctly conceivable, and hence *a priori* possible, that in different classes of observations different laws of error might exist; therefore we ought not to expect that from merely theoretical considerations a single definite law of error should result."

Gauss, as long ago as 1809, seems to me to have had a comprehensive and just understanding of the whole subject. To him belongs the whole credit in this branch of probabilities. Laplace showed that for most accurate results the sum of the errors raised to the 2*n*th power should be used, the accuracy increasing with *n*. But the condition is intrinsically the same where the squares are taken. For the condition $x_1 + x_2 + x_3 +$ etc. $= o$ is equivalent to the condition $x_1^3 + x_2^3 + x_3^3 +$ etc. $= o$.

Integrating this last expression, we have

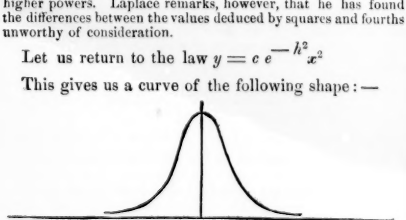
$$x_1^4 + x_2^4 + x_3^4 + \text{etc.} = k.$$

This must be a minimum when $x_1 + x_2 + x_3 +$ etc. $= o$. And so on for any power $2n$. Using the test that the fourth powers of our errors shall aggregate a minimum we shall have a smaller value for the error of our mean. For the function $\Sigma x'^4 = \Sigma (x - x_0)^4$, (where x_0 is the error of our mean) $= \Sigma x^4 + 6\,\Sigma x^2 x_0^2 + n\,x_0^4$. Therefore the function $\Sigma x'^4 = y$, shifts according to the law $n\,x_0^4 + 6\,C\,x_0^2 + C^1 = y$, as we shift our origin x_0.

The function $\Sigma x'^2$ shifts, as we have seen, according to the law $n\,x_0^2 + C = y$. Hence for a given value of the function y we shall get a smaller value of x_0 in the former law of variation than in the latter. And this applies with increasing force to higher powers. Laplace remarks, however, that he has found the differences between the values deduced by squares and fourths unworthy of consideration.

Let us return to the law $y = c\,e^{-h^2 x^2}$

This gives us a curve of the following shape: —



The probability that an error will fall within a certain limit x_0 is $2\,c \int_0^{x^0} e^{-h^2 x^2} dx$.

$e^{-h^2 x^2}$ can only be integrated by the aid of an infinite series. Between the limits o and ∞ it has been accurately integrated by Poisson.

$$\int_{-\infty}^{+\infty} c e^{-h^2 x^2}\,dx = \frac{c}{h}\sqrt{\pi}$$

[1] Method of Least Squares.

But this integral, representing the sum of all the probabilities, must equal unity. $\therefore c = \frac{h}{\sqrt{\pi}}$ h can be considered as a parameter of precision, for the probability of a given error is diminished as h increases. When h is 8. $y = o$, that is, the possibility of error is precluded. When $h = o$, $y = o$. This is a logical equation and means not that there is a probability of nothing, but that there is no probability, as in that case law is at an end.

The value of x corresponding to $h\,x = .4769$ — where the probability is $\frac{1}{2}$ — is called the probable error. It shows that an error is as liable to fall without as within its limit.

h, in terms of the errors, $= \sqrt{\frac{n+1}{2\,\Sigma x^2}}$.

Let r denote the probable error of a single observation. We saw that $h\,r = .4769$.

$\therefore r = .4769 \sqrt{\frac{2\,\Sigma x^2}{n+1}}$. Let r_0 denote the probable error of the Arithmetic Mean. We have $h_0 r_0 = .4769$, but $h_0 = \sqrt{n}\,h$ $\therefore r_0 = .4769 \sqrt{\frac{2\,\Sigma x^2}{n\,(n+1)}} =$ $.6745 \sqrt{\frac{\Sigma x^2}{n\,(n+1)}}$.

Likewise $r = .6745 \sqrt{\frac{\Sigma x^2}{n+1}}$.

Dienger[1] has calculated these formulæ differently.

According to him $r = .6745 \sqrt{\frac{\Sigma x^2}{n-1}}$.

$$r_0 = .6745 \sqrt{\frac{\Sigma x^2}{n\,(n-1)}}.$$

Practically, as there is no great difference between the formulæ, I shall use Dienger's, as they have become somewhat established. I do not think them so accurate as the others, however.

Let us now apply some of the foregoing work to Professor Bowditch's excellent tables on the growth of children. According to his measurements the average height of Boston schoolboys five years old is

For Americans . 41.74
For Irish . . . 41.59

These are founded on the following observations: —

Inches.	American.	Irish.
47	2	-
46	1	5
45	6	6
44	18	31
43	29	53
42	37	65
41	46	77
40	33	64
39	12	41
38	9	17
37	4	5
36	3	1
35	1	-
34	-	-
33	-	
32	-	-
31	-	-
30	-	1
Total	201	366

[1] Ausgleichung der Beobactungsfehler.

Let us find the probable error of each average. We have the formulæ, $r_0 = .6745 \sqrt{\frac{x\,\Sigma^2}{n\,(n-1)}}$ and Peters' approximation formula, $r_0 = .8453 \frac{\Sigma\, x}{n\sqrt{n-1}}$.

By the first formula we have for Americans

Errors	Squares.	Sums.
5.26	27.6676	55.3352
4.26	18.1476	18.1476
3.26	10.6276	63.7656
2.26	5.1076	191.5938
1.26	1.5876	46.0404
.26	.0676	2.5012
.74	.5476	25.1896
1.74	3.0276	99.9108
2.74	7.5076	90.0912
3.74	13.9876	125.8884
4.74	22.4676	89.8704
5.74	32.9476	98.8428
6.74	45.4276	145.4276
Total	- -	852.9476

$$n\,(n-1) = 40200.$$
$$40200)852.9476(.02121.$$
$$\sqrt{.02121} = .146.$$
$$.146 \times .6745 = .098477 = \text{Prob. error.}$$

That is, it is as likely that the true value of the average will fall without the limits 41.8385, 41.6425, as within them. It is an even wager. Calculated by Peters' formula the probable error is .0955.

For Irish boys five years old: —

Errors.	Squares.	Sums.
4.41	19.4481	97.2405
3.41	11.6281	69.7686
2.41	5.8081	180.0511
1.41	1.9881	105.3693
.41	.1681	10.9265
.59	.3481	24.8037
1.59	2.5281	161.7984
2.59	6.7081	275.0321
3.59	12.8881	219.0977
4.59	21.0681	105.3405
5.59	31.2481	31.2481
11.59	134.3281	134.3281
Total	- -	1417.0046

Prob. error = .0694.

In other words it is an even wager that the true value of the average lies without or within the limits 41.6594, 41.5206.

In comparing in general two values M and N with probable errors p and q respectively, for M to be unequivocally greater than N, the following relation must hold, $M-N > p+q$. Let us compare thus the averages we have discussed above. $41.74-41.59 = 15$, $.0985 + .0694 = .1679$. Hence Professor Bowditch's statistics cannot be considered as showing that American boys are taller than Irish at the age of five.

Our criterion does not declare the opposite to be the fact, but simply shows that from the data we can draw no conclusion whatsoever. I propose to call the quotient $\frac{M-N}{p+q}$ the *reliability*. The reliability, then, must be unity or greater to merit our confidence. In the case in hand the reliability is $\frac{53}{100}$ — rather small for the number of observations.

Let us compare the heights of Boston schoolboys of American and Irish parentage between the ages of seventeen and nineteen. I shall use the approximation formula $r_0 = .8713 \frac{\Sigma\, x}{n\sqrt{n-1}}$ which gives very close results. This differs slightly from Peters' formula.

Ages between Seventeen and Nineteen.

AMERICANS. Errors.	IRISH. Errors.
7.55	4.80
6.55	6.60
5.55	5.60
13.65	3.20
24.85	.20
20 50	6.00
29.45	2.20
7.15	16.00
8.10	4.20
30 45	6.20
31.85	8.20
24.15	.20
40.05	.80
10.90	3.60
12.90	2.80
14.90	
12.45	169.88)75.20(.44
13.65	
21.30	.44 × .8713 = .383 = Prob.
7.65	error for Irish.
10.85	Prob. error for Americans =
6.05	.15.
4.95	
17.40	
10.35	
14.70	
4.45	
5 45	
6.45	
424.25	

$\therefore M-N = .25$, $p+q = .51$. Reliability = .40. Hence from Professor Bowditch's tables we are not warranted in drawing the conclusion that American boys between the ages of seventeen and nineteen in Boston are taller as a rule than Irish boys of the same ages. Between the ages of six and sixteen the reliability is greater than unity, reaching a maximum for the age of fourteen, and progressively decreasing in either direction. This shows, then, quite conclusively, that poverty and deprivation have an effect in retarding the growth between the ages of six and sixteen, reaching a maximum at fourteen years. The decreasing reliability after fourteen would tend to show that it is a retardation only, which has a tendency to correct itself as years go on. Whether the gap ever closes itself, and if so, at what age, are questions which cannot be answered at present. We have just seen that, as far as Professor Bowditch's tables are concerned, we are not at liberty to say that the gap exists at the ages of seventeen and nineteen.

Boudin is of the opinion that the stature is independent of comfort and misery, but closely connected with race. I think this is highly probable, though it is well to bear in mind that this is in the nature of a personal opinion. Boudin arrived at his conclusions from an examination of the measurements of recruits to the army from different parts of France. His conclusions were not derived from an application of the laws of probability and hence cannot possess the indisputable character of the conclusions I have drawn above.

Villermé concludes as the results of his observations

that "the stature is greater and the growth sooner completed, other things being equal, in proportion as the country is richer and the comfort of its inhabitants more general." This is a hasty conclusion. I have no data at hand by which rigidly to test these hypotheses. But my object in this paper is not the carrying out of anthropological investigations, however interesting they may be, but merely the exemplification of general principles. I believe, however, that if Villermé had applied some of the preceding rules, he would have found that the reliability of his conclusions fell below unity. The method in hand, therefore, furnishes us with a means of *settling* many questions which are at present unnecessarily considered *sub judice*.

Returning to Professor Bowditch's tables, let us compare the weights of American and Irish children at the age of eight years.

AMERICAN.	IRISH.
Errors.	Errors.
29.57	21.88
25.57	89.40
21.57	152.68
70.28	514.02
81.42	835.38
334.95	709.66
334.20	210.04
153.86	259.44
267 30	184.14
430.81	64.92
208.60	14.82
57.72	
	3056.18
2015.83	

Reliability = .81.

Weights between Seventeen and Nineteen.

AMERICANS.		IRISH.
123.88	42.06	32.60
41.94	65.94	28.60
67.88	41.94	33.20
29.94	33.94	12.60
25.94	29.94	17.20
131.64	25.94	18.40
35 88	43.88	1.20
83 64	17.94	22.20
159.04	69.70	11.40
77.22	59.64	61.60
15.52	59.40	19.40
20.60	9.70	81.20
78.78	20.60	43.40
140.84	48.48	
168.72	50.30	383.00
162.54	70.30	
66.18	18 06	
26.06	68.12	
60,12		
136.24	2506.54	
38.06		

Reliability = .89.

The reliability at and before eight years falls below unity; hence we have no grounds for believing that American children in Boston up to eight years of age, nor after seventeen to nineteen years, are heavier than Irish children of the same ages.

Between these ages the fact is declared. The inference from this would be that deprivation retards the acquirement of the normal weight, though its effect in this respect is not so soon developed as in regard to the height. It seems to be equally soon effaced, however.[1]

[1] In comparing the heights and weights above *singly*, where the reliability falls below unity no conclusion can strictly be drawn. However, where the values are *uniformly* in excess in one direction, a presumption is created on that side. But the fact is not *declared* unless the reliability exceeds unity.

Comparing American and Irish schoolgirls in Boston, we find that the height of the latter becomes less than that of the former somewhere before the fifth year. As Professor Bowditch's tables do not record before this age, we cannot say at what year. His tables would seem to show that the gap is closed between the seventeenth and nineteenth years. As regards the weights, they differ reliably at six years and coincide again at the ages seventeen to nineteen. The reliability for five years, comparing the weights, is .45. Hence we see that in girls as well as boys deprivation affects the height before the weight, and in girls both are affected sooner than in boys. We have also reason to believe that these discrepancies are all simultaneously obliterated at the ages seventeen to nineteen.[2]

The method I have exemplified above is a valuable one, and capable of extended application. Take, for instance, the question whether an increased amount of urea is eliminated during increased bodily exertion. Let a sufficiently large number of observations be made under the two conditions of rest and work, the weight being preserved, and other circumstances identical in each case. Then compare the sum of the probable errors with the differences of the averages. I have not any figures at hand, and this paper is already too long without their addition.

But I will say that if the supporters of Liebig's theory will simply show that $M - N > p + q$ in a large number of observations they will do more to establish their conclusions than by any amount of collateral argument. How many theories are there, when so tested, that will fall to the ground! It is these unsound hypotheses, supported by figures, that are especially dangerous. To the average reader the figures furnish them a stability they do not possess.

The following are a few problems in probabilities, given without demonstration, that will possess, perhaps, some utility. Suppose that a complete event μ is made up of two parts m and n; the limits of error of the fraction $\frac{m}{\mu}$ will be $\pm 2\sqrt{\frac{2mn}{\mu^3}}$

For instance, Dr. John Homans out of 100 cases of ovariotomy has had 87 recoveries and 13 deaths. What, by *a priori* reasoning, will be the limits of his success in future operations, under similar circumstances?

$$\text{Here } 2\sqrt{\frac{2mn}{\mu^3}} = \frac{9\frac{1}{2}}{100}$$

Hence, from Dr. Homans' past record, we could not expect a fewer number of recoveries than 77½ per cent., nor a greater number of successes than 96½ per cent. By taking a larger number of operations we shall be able to get narrower limits than these.

Suppose that out of μ cases of scarlet fever, m are followed by acute nephritis, — what is the mathematical risk that it will occur in a given case. The risk is anywhere within the limits $\frac{m}{\mu} 2\sqrt{\frac{2mn}{\mu^3}}$.

This expression must be filled out from statistics.

[2] It is evident that the distribution of observations on each side of the average may be represented by the curve of probabilities. Quetelet, in his tables, erroneously states that the distribution follows the law of the Binominal Curve. V. Bowditch's tables.

Suppose an experimenter has been investigating the prophylactic value of belladonna in scarlet fever. Suppose that out of b people who have put themselves under the supposed influence and have subsequently thoroughly exposed themselves, m do not have the disease. Suppose that w other individuals expose themselves under similar circumstances without taking belladonna and of these m' fail to have the disease. Suppose that in each case, n and n' individuals respectively contract the disease. The case is made out only on the condition $\frac{m}{b} - \frac{m'}{w} > 2\sqrt{\frac{2mn}{b^3}} + 2\sqrt{\frac{2m'n'}{w^3}}$, and this condition is as inexorable as the law of the Medes and Persians. It is in such a way as this that Medicine is to approximate to an exact science. The more heavily she leans upon her sturdy brother Mathematics, the quicker and surer will her progress be.

If an event occurs n times in succession, the probability that it will occur m times more is, irrespective of conditions peculiar to the question, $\frac{n+1}{n+m+1}$.

If an occurrence has been observed to repeat itself n times consecutively, the probability that there is a cause behind it is $\frac{2^n+1-1}{2^n+1}$. Thus: suppposing that every person not vaccinated is certain, if sufficiently exposed, to contract small-pox, and suppose that ten vaccinated persons after greatest exposure fail to contract natural small-pox. What is the probability that the vaccination is the cause of the immunity? Our formula tells us Prob. $= \frac{2047}{2048}$ which is almost a certainty.

I have thus shown that probabilities may be of value in medical investigations, particularly in statistical work.

SANITARY FOREST-CULTURE.[1]

BY J. F. ALLEYNE ADAMS, M. D., OF PITTSFIELD.

THE subject of Forestry, involving as it does important considerations of public health, is not unworthy of the attention of this Society. Although a love of trees has always existed as one of the better instincts of mankind, it is only within comparatively few years that the evils resulting from the wholesale destruction of the forests have become so well understood as to result in active public measures for their prevention. Out of the necessity for overcoming these evils have arisen the science and art of Forestry, whose two-fold aim is to prevent the destruction of forests from being carried to a dangerous extreme, and to reproduce in part those which have already been destroyed. The subject, which was formerly viewed chiefly from an economical point of view, is now, as recent observations bring out more clearly its sanitary aspects, naturally regarded by the medical profession with increasing interest.

The beneficial influence of forests upon public health is chiefly exerted in three ways: —

(1.) By regulating the flow of streams.
(2.) By modifying the climate.
(3.) By protecting against malaria.

[1] Read before the Massachusetts Medical Society, June 11, 1884, and recommended for publication by the Society.

Under each of these heads a great number of interesting facts have been collected, of which the briefest possible summary will be presented.

(1.) It is well known that a piece of woodland acts as a reservoir, a large portion of the rainfall being held by the roots and spongy soil, from which the sun's rays are excluded, thus keeping the springs alive, and storing up water to feed the streams during the dry season. On open ground the snows of winter chiefly expend themselves in spring freshets, while the snow which falls in the woods melts slowly, and is chiefly absorbed by the unfrozen soil. When, therefore, a country is denuded of its woods, the rain which falls upon it is wasted, running off in destructive floods, washing the lighter soil away from the hillsides, overflowing the valleys, and doing a vast amount of damage; while in summer the springs dry up, the streams are shrunken, and those great areas which had been overflowed become dry. A large territory in the southeast of France, once fertile and prosperous, has from this cause become desolated and almost depopulated, and all the rivers of Europe are subject to greater fluctuations than formerly. The same has been observed of the rivers of India, Tartary, and both continents of America. In the United States the increase of both floods and droughts is strikingly apparent. Wherever forests have been allowed to grow up again, on land once cleared, the springs have been found to reappear and the streams which they feed to regain their regular flow. Of this many instances might be cited, only one of which, as possessing a somewhat peculiar interest, will be mentioned as an example. It is stated by Surgeon Curran [2] of the Indian army, that the brook Kedron, in Palestine, which has in modern times been nearly dried up, "has recently for the first time in centuries flowed in a copious torrent, evidently in consequence of the numerous enclosures of mulberry and olive groves made within the last few years by the Greek convent." The prejudicial effects upon health of great fluctuations in the level of streams are sufficiently apparent. There must result great variations in the level of the subsoil water, which are recognized as a fruitful source of disease, and also, dependent upon this, great variations in the depth of water in wells, an important factor in the propagation of typhoid fever. Moreover, the alternate overflow and drying of low lands afford the very best conditions for the development of malarial diseases in those regions where the malarial poison exists, and offer the most inviting field for its spread beyond its accustomed limits. Among the causes of the recent epidemic of malarial fevers in Connecticut and portions of Massachusetts, the cutting off of timber from the mountains must be recognized as an important one, for hence the rivers suffer an extensive overflow every spring, while in the summer they are so dried up as to expose a large portion of their bed to the sun's rays. The malarial poison has reached its greatest intensity and has spread most widely in certain seasons of extreme low water.

(2.) *The influence of forests upon climate.* A piece of woodland exercises upon temperature an influence resembling that of the ocean, cooling the air in summer and warming it in winter. It also presents a mechanical obstacle to the violence of winds, besides depriving these winds of the character of excessive

[2] A Plea for Tree Preservation in India, by Surgeon-Major Wm. Curran, A. M. D. Indian Annals of Medicine, etc., Calcutta, 1877, vol. xix., p. 59.

heat, cold, moisture, or dryness. Thunder storms are less violent in wooded than in open districts, the trees acting as electrical conductors. Forests are also believed to increase the rainfall. The experiments of Dr. Anders [1] show that the evaporation from a forest is greater than that from an equal area of water, twice that from an equal area of damp soil, and several times greater than that from dry soil. It would naturally be supposed that this excessive evaporation would, by increasing the degree of saturation of the atmosphere, increase the rainfall, and such has, in some instances, been found to be the case. In Lower Egypt, for instance, where twenty million trees were planted by Mehemet Ali and Ibrahim Pasha, the rainfall has more than doubled within the life of the present generation. The same has been observed in Scotland, and also on the Island of St. Helena. But such is not the result of all observations. For instance, at Marietta, Ohio, where a record of the rainfall has been kept almost continuously since 1817, the rainfall has not been found materially changed, although the country in that vicinity, which was formerly heavily wooded, has now but thirty-three per cent. of woodland.[2] Such apparent discrepancies show the importance of multiplying such observations, and of taking into consideration all other meteorological influences. One point to be remembered is, that rain being usually formed at a great height, sometimes one or two miles above the earth, the quantity of vapor from a forest may be carried by the wind a considerable distance before being condensed into rain.

(3.) *Protection against malaria.* Of the efficacy of masses of trees for this purpose there can be no doubt. Malaria possesses an affinity for leaves, and those of the eucalyptus are believed by many to possess a peculiar power of neutralizing it. It is highly probable, however, that this influence is wholly mechanical, for the experiments of Tyndall [3] show that all minute particles suspended in the air have a tendency to attach themselves to any surface. The air of closed boxes became, in three days, wholly free from suspended particles, all of which had attached themselves to the sides of the box. Various infusions of meat and vegetables introduced into such boxes remained for weeks and months unchanged, while the same infusions exposed to the general atmosphere speedily putrefied, and became alive with bacteria. These experiments are mentioned as showing the probable way in which leaves remove from the air the elements of disease. In all malarial regions a belt of trees interposed between a swampy place and a dwelling is known to be a defense against malaria. In Virginia, a few years since, the cutting away of such a screen rendered a residence unhealthy which had always before been exempt from malaria. The freedom of the Dismal Swamp from malaria has been ascribed to the fact that it is covered with a dense growth of cypress and juniper trees. A century ago Pope Benedict caused the woods to be cut down between the Pontine Marshes and Rome, against the remonstrances of Lancisi. As a consequence the malaria reached the city, portions of which became so fever-stricken that many people were driven away from homes previously healthy.[4] Within a few years the French in Algeria have greatly reduced the prevalence of malarial fevers by planting large numbers of eucalyptus trees about certain marshy spots. The same has been done, with a like result, in Southern France, in Corsica, in Spain, and also by Trappist monks in the Roman Campagna.[5]

To these sanatory uses of the forest must be added the restorative effect of a sojourn among the woods, as shown by the many invalids benefited by a trip to the Adirondack wilderness, the woods of Maine and Canada, and the pines of the Southern States, as well as the advantages derived from woods and groves near cities and towns where children may spend an occasional holiday in the open air.

Although it is the design of forestry, by introducing a regulated and systematic method of cutting, to render the supply of timber perpetual, without materially diminishing the present supply, yet the chief objection to forest preservation comes from those who fear that the lumber interests will thereby be injured. That this objection is not well grounded is shown in the fact that under the present destructive method of cutting, some of our most valuable woods, notably the indispensable white pine, are becoming scarce, and nothing short of a general and earnest attention to the subject of forest preservation can prevent their speedy extermination.

To insure the protection of the existing forests, and the reproduction, to some extent, of those which have been destroyed, it is essential to have —

(1.) A general diffusion of knowledge as to the injuries inflicted upon the country by the unregulated cutting down of the trees.

(2.) The enactment of such laws as will cause the care and replanting of forests to be systematically and intelligently undertaken, and also prevent forest fires.

(3.) The establishment of forestry as a special branch of education, either in separate schools or in connection with agricultural or other colleges, for the training of skilled foresters to take charge of the timber lands.

In Europe there is no lack of interest in the subject, the necessity in the older countries being greater than in ours. Laws for the replanting and protection of forests have, since 1860, been enacted in France, Prussia, Switzerland, Italy, and other countries. The work is chiefly carried on by the governments of these countries, liberal appropriations being made for the purpose, and a large force of foresters employed. For the education of these, numerous schools of forestry have been established, the greater number being in Germany and Austria.

In the United States the interest in the subject is shown by the organization of a Forestry Congress two years ago, at the meetings of which many valuable papers have been read. Several papers have also been presented to the American Public Health Association, and others have been published in popular magazines. The Agricultural Department at Washington has a Division of Forestry, the report of which, by Dr. Franklin B. Hough, in 1877,[6] is the most useful hand-book on

[1] Forests, their Influence upon Climate and Rainfall, by J. M. Anders, M. D., Ph. D., American Naturalist, January, 1882, vol. xvi., No. 1. On the Transpiration of Plants, by the same author, American Naturalist, March, 1878.

[2] See the Sanitary Value of Forests, by George C. Andrew, M. D., of La Porte, Ind. Trans. Am. Pub. Health Association, 1877.

[3] Floating Matter in the Air, by John Tyndall, F. R. S., 1882.

[4] Forests and Trees as Sanitary Factors, by John S. Caulkins, of Thomasville, Mich., Report Michigan State Board of Health, 1881. See also Forests and their Climatic Influence, by M. Becquerel, Smithsonian Report, 1869.

[5] Caulkins, op. cit.

[6] Report upon Forestry, prepared under the direction of the Commissioner of Agriculture, 1877. This report is a mine of information.

this subject, and which is still doing valuable work under Mr. N. H. Eggleston, for which Congress appropriates the paltry sum of $10,000 annually. In eleven States there are laws for the encouragement of tree-planting, either by offering a bounty for lands planted with forest trees, or by exempting such lands from taxation for a term of years. Seven other States have laws to promote tree-planting upon highways. In 1873 Congress passed an Act to Encourage the Growth of Timber upon Western Prairies.[1] In the last census a great deal of attention was given to the forests, and the report by Dr. Sargent, now in press, will contain a vast amount of information on the subject.

In Massachusetts a law exists requiring such agricultural societies as receive state bounty to offer premiums for the raising and preserving of oaks and other forest trees suitable for ship timber. In 1878 an act was passed exempting from taxation for ten years lands planted with certain kinds of forest trees. In 1882 a law was enacted entitled An Act Authorizing Towns and Cities to Provide for the Preservation and Reproduction of Forests.[2] Under this act cities and towns may purchase lands to be preserved as forests. The title of such lands vests in the Commonwealth, and the State Board of Agriculture is made a Board of Forestry, with power to appoint keepers, and to make improvements, though the expenditure in any town may not exceed the amount received for rent and sale of products.

The Massachusetts Society for the Promotion of Agriculture has at various times, beginning in 1804, offered prizes for the cultivation of forest trees. One of these of $1000 was paid in 1870 to the Hon. Ben. Perley Poore, of Newburyport.[3]

In 1872 Harvard University received a bequest from the late James Arnold, of New Bedford, for the purpose of founding a professorship of tree-culture, and creating an arboretum in connection with the School of Agriculture and Horticulture at the Bussey Place, West Roxbury. Thus began the "Arnold Arboretum," which, under the care of Prof. C. S. Sargent, is destined to become an important centre for forestry education.

It is thus evident that Massachusetts has been a leader among the States in regard to forestry, and yet the practical outcome of what has hitherto been done is not very great. The law passed two years ago was specially intended to effect the preservation of the Middlesex Fells and their conversion into a public park, with the double purpose of improving the watershed of the streams and ponds in that vicinity and of maintaining a sylvan health resort. This is an important step forward, and yet the law is not likely to result in any general purchase of forest and waste lands by towns and cities. Such purchases would be most likely to be made for the purpose of improving a water supply, but the fact that the water supply of one town is very often derived from another town, while this law only permits towns to purchase lands within their own limits, renders the law of but little use for this purpose. The same objection will apply to the improvement of the reservoirs of manufacturing companies, since the streams which feed them seldom arise in the same town, and sometimes not even in the same county or State. It has been suggested that the State might charter forestry corporations, composed of manufacturers and others whose interests are involved, with power to purchase and hold large tracts of forest land; but the antipathy of our people to great land monopolies would doubtless render the passage of such a law impossible.

The benefits to be derived from forest culture are not sufficiently local in their character for such work to be assumed with the best success by either towns or corporations. The forests in one part of the State benefit the whole population, especially in the ways which have been outlined in this paper, and, therefore, the wisest plan would be for the State to assume control of the forests, purchasing such lands of little value for farming purposes as may seem advisable, and planting them with forest trees. From these lands the State would in the future receive a revenue from the sale of timber, to be cut under such a system as to insure the perpetuation of the forest.[4] To obtain the very best results such measures should be undertaken by all the States, and when a beginning is made by one or more States others will be likely to follow their example.

Upon the hills of Western Massachusetts are thousands of acres of land, which, when first cleared, was sufficiently productive; but the soil, no longer held together by the roots of the trees, has had its lighter and richer portions washed out year by year until its best elements have found their way into the valleys, leaving the hill farms sterile and nearly worthless. The change is evidenced by the ruined houses and half-obliterated cellars which are sadly abundant on the hills, indicating a population and prosperity in former times which would now be impossible. In the vicinity of Boston, within my recollection, many fine tracts of woodland have been cut down for fire-wood, leaving barren, rocky hills, looking desolate enough without their once beautiful covering. If these sterile hills, all over the State, could be planted with the best varieties of forest trees, and properly cared for, the value of adjacent lands would be enhanced, our streams would flow with greater regularity, freshets and low water would both be less common, the climate would be tempered, the extremes of heat and cold being less marked, and winds less violent, the rainfall would be more copious and regular, malaria would lose its foot-hold, while every grove would be a sanitarium for the weary denizens of city and town. Let us as physicians do what in us lies to promote this important reform.[6]

Dr. Hough also published, in 1882, a valuable text-book entitled The Elements of Forestry.

[1] United States Statutes at Large, vol. xvii., Forty-Second Congress, 1873.

[2] Acts and Resolves of Massachusetts, 1882, p. 200, chap. 255.

[3] Tree-planting on a large scale has been successfully practiced by the late Richard S. Fay at Lynn, and Mr. Joseph S. Fay at Woods Holl.

[4] Private enterprise alone would accomplish much if the art of making forest cultivation profitable were generally understood. In the three western counties of Massachusetts the planting of sugar maple trees would in time yield rich harvests of maple sugar.

[6] Valuable works of reference, besides those mentioned, are the following: Trees and Shrubs of Massachusetts, by George B. Emerson, 1846. Man and Nature, by George P. Marsh, 1864. The Earth as Modified by Human Action, by the same author, 1874.

Also the following books by John Crombie Brown, LL. D.: Forests and Moisture, or Effects of Forests on Humidity of Climate. Edinburgh, 1877. Reboisement in France. London, 1880. Pine Plantations on Sand Wastes in France. London, 1876.

A special bulletin of the Boston Public Library in June, 1879, under the heading Trees and Forests, contained 180 titles. A bulletin printed in connection with the meeting of the Forestry Congress at Washington, May 7, 1884, contains a list of 167 papers read at the previous meetings of the Congress during the past two years, of which a considerable number pertain to the effect of forests upon climate and health. A weekly journal of forestry, entitled Oesterreichische Forst-Zeitung, is published in Vienna.

LABOR IN A CASE WITH CONTRACTED CONJUGATE: VERSION AND CRANIOTOMY.[1]

BY W. E. BOARDMAN, M. D.

FEBRUARY 24, 1884, at 1.30 P. M., Catherine H. was brought from Brighton to the Boston Lying-In Hospital by Dr. H. E. Marion with the following history: Married and had one miscarriage about one year ago. Catamenia last present May 20, 1883, when it was observed that the flow lasted only a day or two, and was scanty. Labor began at six P. M. February 23d. Seen for the first time by Dr. Marion at 12.30 A. M. February 24th, when the os was found to be fully dilated, head presenting O. R. A., but very high, so that he did not feel positive about his diagnosis. At 1.30 A. M. the bag of membranes reached to the vulva, and was ruptured during a digital examination. At ten A. M. no progress had been made; the head was still situated high up, barely within reach of the index finger. Concluding that operative interference was demanded, Dr. Marion hesitated to undertake it at the home of the patient in consequence of the very limited accommodations and arrangements afforded, and advised her to enter the hospital, where she arrived at 1.30 P. M.

Upon examination directly after her entrance the condition of things was found to be unchanged, and I thought I could make out some shortening of the conjugate diameter with the presentation O. R. A. in confirmation of Dr. Marion's diagnosis. It was decided to interfere on account of no progress made and the increase in the rapidity of both the mother's and fœtal pulse, and thinking it would be a favorable case for the employment of Tarnier's axis traction forceps I requested my colleague, Dr. Richardson, to join us, and bring his instrument. In the interval the patient had several strong pains, which Dr. Marion remarked were stronger than he had observed during the progress of the labor. Ether was administered at three P. M., Drs. Richardson, C. M. Green, and Marion being present. It was then found that an error in diagnosis had been made unless possibly a rotation had occurred under the pains in the interval since the preceding examination, for now it was found to be O. R. P. with extension, but the head had not engaged. The idea of employing forceps was abandoned, and version was done with considerable difficulty owing to the firm uterine contractions. Upon the delivery of the body my hand had become useless from the continued pressure to which it had been subjected, and I was obliged to yield the completion of the operation to Dr. Richardson. With much difficulty the arms were released by him, when I attempted to apply forceps after traction had been employed by the body without success. Finding myself unable to adjust the first blade, and thinking it due to the loss of power in my hand, I again gave up to Dr. Richardson, who completed the delivery. He, too, was unable to apply the forceps, and after still further ineffectual attempts to deliver by means of traction on the body I advised perforation of the head as the cord was pulseless when first it came within reach. Accordingly Dr. Richardson perforated with Braun's scissors behind the left ear, not using the trephine through fear of implicating the bladder. Braun's cranioclast was then introduced, but the head could not be extracted. The cephalotribe was tried, but could not be adjusted. The head was then again perforated behind the right ear, the cranioclast introduced, and by combined traction upon this and the body, the child was finally delivered at 4.15 P. M., the placenta following directly. The cervix was found to be badly lacerated in several directions, and the perinæum torn irregularly through the sphincter, requiring several sutures. The child was a boy, and weighed, minus the contents of the skull, nine and one half pounds.

The patient has had a normal convalescence, except that an enormous fæcal discharge on the fifth day tore away the sutures in the perinæum, though the sphincter had united tolerably well. She will return home on the 9th inst., the fifteenth after entrance, at her own request. During her stay in the hospital it has been ascertained that four years ago she was delivered naturally of a good-sized child, though the labor was somewhat tedious.

Measurements with the pelvimeter gave the following results: Between anterior superior spines, eight and one fourth inches; between crests of ilium, nine and three fourths inches; between sacrum and pubes, seven and one fourth inches. Deducting from the latter three and one half inches, an accepted average, for integument, fat, etc., and this patient was excessively fat, we obtain a conjugate diameter, fairly estimated, of three and three fourths inches, corresponding with the measurement obtained by the introduction of the index and middle fingers within the vagina to the promontory. At all events there was some shortening of this diameter. Add to this fact that of the malpresentation, and also the fact obtained after the delivery that the head of the child was notably unyielding from advanced ossification, and the solution of the difficult labor becomes easy. Judging from the condition of the child's cranial bones, its weight, and the history of the catamenia, it is not improbable that its fœtal life was unusually prolonged.

With regard to measurements made upon the outside, Lusk gives as the normal results, ten and one fourth, eleven and one fourth, eight inches respectively, in the above order, according to which our very fat patient presented a notable narrowing in all directions. As showing that we need not be in haste to interfere in every case where the diameters are shortened, as indicated by the pelvimeter, which is applied externally, I will append the measurements in three cases, all primiparæ, now in the hospital, with each one of whom the labors were natural, and, curiously enough, the first one, with the longest diameters and the smallest child, had the longest labor:—

Case I. Diameters, eight and three fourths, ten and and one half, seven and one half. Labor, O. L. A., fourteen hours. Child, seven and one fourth pounds.

Case II. Diameters, seven and one half, eight and one half, six and three fourths. O. R. P., with rotation. Labor, seven hours. Child, seven and one half pounds.

Case III. Diameters, eight, nine and one half, five and three fourths. O. L. P., with rotation. Labor, four hours, twenty-three minutes. Child, eight and one half pounds. And Case III., with a presentation O. L. P., with the shortest conjugate diameter and the heaviest child, had the shortest labor.

[1] Read before the Obstetrical Society of Boston, March 8, 1884.

— Vinegar, clear, is recommended as a valuable remedy for diarrhœa. Dose for an adult, ℥ii.

NOTES OF A CASE OF DROWNING.[1]

BY GEORGE STEDMAN, M. D.

ON Thursday, May 22, 1884, the body of an unknown man was found off Wellington's wharf in the water of the Mystic river. The body was that of a man five feet ten inches in height and about one hundred and seventy pounds in weight. He was about forty-four years of age, had heavy red mustache and side whiskers ("Galway sides"). He wore a dark mixed suit, white shirt, and heavy boots; this being all the information known to the medical examiner.

External examination showed no mark of violence except a bruise upon the forehead. There was no frothy foam perceptible at the external air passage, neither was there any strongly marked congestion of the face or upper part of the body, and the body was in an excellent state of preservation. Forty-eight hours after the recovery of the body there was noticed a bluish-purple discoloration of the eyelids; and upon the lower portion of the abdomen, in the iliac region of each side, there was at the expiration of another day a greenish discoloration, somewhat faint, of the size and shape of half a pea-pod.

Though from the place of finding the body, death was presumably from immersion, the fact of a decomposition developing at the abdomen primarily, and the discoloration about the eyes, which in the absence of any other appearance of decomposition about the face and head, taken in connection with the bruises on the forehead, suggested that there might be a fracture at the base of the skull, and an autopsy was decided upon.

At the time of examination, which was four days and a half after the recovery of the body, the appearances which have been mentioned had not materially changed, except that the discoloration about the eyes appeared more like the discoloration of decomposition than like the ecchymosis of a fracture.

On section there was found to be very little if any congestion of the vessels of the brain.

The right heart was in no way distended with blood, and a portion of the blood in the right auricle was clotted.

The lungs were not increased in volume, and only moderately congested, neither did the section show the presence of water in these organs to anything beyond an amount which might have been readily overlooked.

The stomach contained about a teacupful of water. The other internal organs, aside from a very slight amount of congestion, presented nothing unusual.

While all these appearances are consistent with each other, and consistent with death from drowning, which in the absence of any other cause of death discovered post-mortem, and in view of the history of the case, is undoubtedly the correct diagnosis, the case is of interest from the absence of almost all the typical signs of death from drowning, and by the presence of some of the appearances which are supposed to contraindicate such cause of death.

The probability is that the man fell into the water, and in falling struck his forehead, producing insensibility, that he immediately sank, and being insensible he made no attempt at inspiration, thereby getting no water into the lungs. The fact that there was no struggling would account for the absence of the intense congestion generally seen in the upper parts of the body. Hence the developing of the process of decomposition in the usual manner.

[1] Read at the annual meeting of the Massachusetts Medico-Legal Society, June 9, 1884.

CHLORAL HYDRATE AS AN ANTISEPTIC.

BY E. WARNER, M. D., OF WORCESTER, MASS.

FOR the last ten years I have used a solution of chloral hydrate as almost my only surgical dressing. This has met the conditions so perfectly, I have not been tempted to substitute for it any of the other dressings that have met with favor among those making use of antiseptic treatment.

It makes a clear and clean solution, itself without offensive odor, and with power to remove the odor of carbolic acid or the fœtor of purulent discharge.

It is not only not irritating, but it seems to act as a local sedative or narcotic, often relieving the pain of a recent injury or operation so completely as to make the use of an opiate unnecessary.

It leaves no stain; can be sprinkled freely on the floor as on the clothing, and its use is no way disagreeable. It is inexpensive and simple in its application.

A solution of the strength of from three to five grains to the ounce will be found sufficient for all ordinary purposes.

In the treatment of large suppurating wounds or granulating surfaces, it will often keep the air of the room or ward so pure that no one would suspect the presence of such a case. There is no danger from its absorption, but much comfort follows its constant employment. The spray is not used during the operation, and no heavy, thick, and somewhat bungling dressing afterward. A light and moist dressing is all that is required. After properly cleansing the wound with this solution, adjust by suture or strap the flaps or edges of the wound as accurately as possible. Make use of a light compress moistened with the solution, and apply the roller with only sufficient firmness to keep the parts from bagging or the flaps from becoming œdematous and flabby. If necessary leave some dependent point open for drainage, and use no drainage tube unless its use seems imperatively demanded. The presence of the drainage tube usually prevents union by first intention.

This warm, moist, light, and clean dressing will prove soothing and agreeable to the patient, and can easily be changed as often as is required for cleanliness, as the dressing is not allowed to become dry and sticky. Somewhat frequent changes add to the comfort of the patient and insure perfect cleanliness. This tends also to relieve the surgeon of anxiety, and he watches less nervously the pulse and temperature to apprise him of the approach of threatened danger, as is the case when the wound is concealed under the numerous folds of the Lister dressing.

There need be no fear of bacteria entering the exposed wound. They are effectually destroyed by the dressing; the soil becomes unsuited to their development and growth. It acts as a perfect germicide, and this is why the spray is discarded, which is an unpleasant and troublesome part of Listerism.

For use during the operation a solution made with warm water is preferred. In this the hands of the operator are cleansed, the sponges, instruments, liga-

tures, and sutures are also all passed through it. Following this practice healing by first intention is often secured after many of the major amputations of limbs and breast, where suitable flaps can be obtained. Compound comminuted fractures, with great injury to the soft parts and very free oozing of blood at first, will often heal without suppuration.

What of the solution penetrates the wound seems to destroy the offending germs, and prepares the wound for healthy reparative processes.

Seldom, if ever, has a case operated on for injury or disease, and treated by chloral, thoroughly applied, been followed by pyæmia or septicæmia. This is claiming much, but the records of hospital and private practice sustain the assertion.

Examples can be given from all departments of surgical practice where it has been exclusively used. It has been most thoroughly tested in cases of ovariotomy, and with the most gratifying success. With my present experience of its use in this operation I should be unwilling to use carbolic acid or any other antiseptic with which I am now acquainted. In this important operation it seems to be *the* agent *par excellence* which should be used where a surface so extensive and so delicate and parts so vital are exposed, and sometimes requiring a somewhat lengthy exposure. It never poisons; it never irritates; it never does any harm. So far as present experience shows its effect is only soothing, cleansing, and wholesome.

In midwifery its use is entirely satisfactory. As an injection it disinfects uterus and vagina, and is in itself always safe.

In the operation for restoring the perinæum or the cervix, or as an injection after any operation in uterine surgery, it meets all the conditions of a safe and reliable antiseptic remedy.

Its use is equally satisfactory in the treatment of felons, abscesses, fistulæ, etc., after operation. It is one of the most soothing of applications in burns, erysipelas, eczema, and chronic ulcers.

An obstinate case of chronic eczema, about the ankle-joint of a hysterical patient, was cured in a week by simply keeping a cloth on it constantly wet with this solution. The dressing was not allowed to become dry for a moment, night or day, for a week, when the cure was complete. This case had lasted many months, and had perplexed more than one physician.

Chloral can be used with vaseline or glycerine in the same proportions of three or four grains to the ounce, if for any reason it is more desirable to use it in this manner.

It is not necessary, perhaps, to use more space for the purpose of citing illustrative cases or of demonstrating its method of use more in detail.

The evidence in favor of the other members of the antiseptic family, as given from time to time in the journals, has been faithfully followed, and duly considered.

The object of this paper is simply to call the attention of physicians and surgeons to this antiseptic remedy, the use of which has been attended with satisfactory results in the practice of the writer and those who have been so situated as to observe its use. This family is already large, but is still on the increase.

The perfect dressing has not yet been found. The field of experiment and trial is being thoroughly cultivated, and almost any one may contribute something of value to the general result.

Chloral hydrate in solution is clear, colorless, and well nigh inodorous, harmless and inexpensive, and yet thoroughly efficient; can be easily kept and transported, as two ounces of water will take an ounce of the crystals, and thus it can always be had when and wherever needed. No accidents or serious mistakes can follow the use of this weak solution of three or four grains to the ounce, but comfort will be contributed to the unfortunate sufferer.

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M. D.

COPPER.

THE action of solutions of salts of copper on animal membranes has long been known and investigated, but much remains to be learned, especially about chronic copper poisoning. V. Ellenberger and Hofmeister[1] record their observations on the effects of small doses of the salts regularly administered. The subjects of the experiment were sheep, and the dose of from half a gramme to three grammes. Amongst the negative results were no alteration of muscular structure, no acceleration of the motion of the heart, no uniform alteration in the microscopic appearance of the blood corpuscles, no alteration of the respiration nor of the secretion of urine. Amongst the positive results, the presence of albumen, bile, and blood in the urine, flaccidity of muscles, weakness, and loss of appetite. The excretion of copper from the system is chiefly by means of the bile, partly by the urine, but in lesser degree.

The principal part of the body which retains copper is the liver, which holds it with very great tenacity, it having been found forty-one days after a dose had been given; the pancreatic glands retain it with almost equal strength; the kidneys do not contain so much as the other two organs. The deposit of copper is proportionally much greater if it has been administered in numerous small doses, the cells having time to absorb it, which is not the case with large doses, owing to their rapid action. The deposits in the nervous system are small, and still smaller in the muscular system: not enough to interfere with their action, but sufficient to be found in the flesh after administration of medicines containing copper.

The opinion is entertained by many that copper should not be classed among the poisonous metals. In large quantities it is, of course, noxious: but this is true of many substances which cannot fairly be considered as poisonous. The latest experiments tend to indicate that, at any rate, copper is not a cumulative poison like lead. MM. Houlès and De Pietra Santa,[2] in a recent communication addressed to the Académie des Sciences of Paris, give an account of Durfort, a village of Tarn, where the workmen pass twelve hours daily in the midst of an atmosphere of copper oxide. Their skins, hair, and beards are covered with copper. The same metal can be detected in their secretions and excretions, and after death in their bones. These people suffer from no special trade disease, and on the other hand they enjoy no special immunity from infectious

[1] Journal of the Chemical Society, London, April, 1884, page 474, from Bied. Centr, 1883, page 606.

[2] The Lancet, February 9, 1884, page 267; Chemical News, January 25, 1884, page 47.

diseases, and in particular from cholera and typhoid fever. The reporters conclude that the so-called "colique de cuivre," asserted in the eighteenth century to be a definite disease, does not exist.

ATROPINE.

A. W. Gerrard, F. C. S.,[1] describes a test for atropine which he believes will be of value in forensic analysis, as hitherto no reliable chemical test for this alkaloid has been known. For practically working the test he recommends the following procedure: To a small portion of atropine in a test-tube, add about two cubic centimetres of a five per cent. solution of mercuric chloride in fifty per cent. alcohol, and warm gently; a yellow precipitate at once appears and becomes brick-red in color upon boiling. He finds there are certain conditions necessary for the success of this test, as is the case with most alkaloidal reactions. It does not answer in dilute solutions, neither does it turn out well if the atropine be added to the mercury solution. The mydriatic alkaloids, hyoscyamine, daturine, duboisine, and homatropine give the same reaction. The same test was applied to other alkaloids. They gave for the most part a white precipitate; in no case a red precipitate.

ELIMINATION OF MERCURY IN THE FÆCES.

Schuster[2] states that in forty examinations of fæces, mercury was found regularly in relatively large quantities during treatment by inunctions. Mercury was found in the fæces for five and one half months after the end of the mercurial course. The metal was found in the fæces in all the cases in which it was found in the urine; on the other hand, it was frequently not present in the urine when it was found in the fæces. The inference is that the elimination of mercury by the fæces is regular and continuous, and that after extensive courses of inunction, say of from thirty to forty-five days, it is completed in six months.

POISONING FROM BAD MEAT.

According to Huber (who treated the subject in 1878 in the Archive der Heilkunde),[3] the above title applies to a group of diseases which, though possessing various features in common, have been often mistaken by reason of their peculiar causes. Huber alludes to the uniform and characteristic features of these cases, which he divides into two groups. The shorter form of the disease quickly manifests itself (sometimes in a few hours) after the poison has begun to operate, convalescence or death ensuing in a few days. Excessive vomiting, violent colicky pains, indifference to surrounding objects, rapid failure of strength, extreme feeling of cold, cramps in the muscles of the calves, and low temperature of the skin in all parts of the body, are referred to in connection with this form of the malady. In fact a certain resemblance between it and cholera is pointed out. Extreme weakness and occasional shivering only introduce the special appearances connected with the disease, which manifest themselves in the digestive canal and the nervous system. Vomiting and diarrhœa, followed by constipation, indicate the derangement of the former; while the affection of the latter is shown by great excitability, and occasionally by sleeplessness and delirium. The slower form of the disease is, however, considered the more fatal. The interval between the infection and the appearance of the disease is usually six days or more. The preliminary symptoms may then last some days, and the actual outbreak of the disease is attended rather by constipation than by vomiting and diarrhœa, while the most serious disturbances in the nervous system are noticeable. Feverish appearances are also present, as well as a decided increase of temperature. These symptoms are followed by cramps in the muscles (particularly the calves), hoarseness and aphonia, oppression in the chest, and violent palpitation of the heart. Convalescence is slow in both cases, and the smallest mistake in diet is apt to cause a renewal of the above symptoms, or even a complete relapse.

PTOMAINES.

Thomas Stevensen, M. D.,[4] gives a brief account of the recent investigations in regard to the alkaloidal bodies discovered by the late Professor Selmi in 1872, and to which he applied the name of ptomaines. In 1880 the Italian government appointed a commission to investigate these bodies. A few papers have already appeared from the hands of individual members of the commission, including one from Selmi, who in 1880 described the physical properties of the hydrochloride of a basic body resembling conine. Its physiological effects, however, were similar to those of curare, a result confirmed by Th. Husemann. In 1881 Armand Gautier showed the basic character of the ptomaines by their power to neutralize acids, and by the formation of crystallizable chloroplatinates, like those furnished by the alkali-metals, ammonia, and alkaloids generally. In the same year, this observer, in conjunction with Etard showed that putrefaction begins with the evolution of nitrogen, that various schizomycetous organisms then develop, which attack the albuminoid bodies with evolution of hydrides of sulphur and phosphorus; whilst leucines, leucinines, skatol, indol, carbylamines, and ptomaines are formed. By fractional extraction of putrid liquids with ether, they obtained two bases having the composition expressed by the formulæ $C_5H_{13}N$, and $C_8H_{15}N$ respectively.

Nencki claims to have separated the ptomaines from the products of the decomposition of gelatine by pancreatic tissue; and from one analysis of the chloroplatinate of a base he deduced the formula $C_8H_{11}N$.

L. Brieger obtained ptomaine reactions from peptones prepared by acting on egg-albumen with gastric juice; but the base could not be separated. The extracts nevertheless were poisonous. From a fermented magma of horseflesh in water he obtained the hydrochloride of a base $C_5H_{14}N_2$, crystallizing in needles; but he was unable to isolate the base itself from its salt. Doses of seven or eight grains of the hydrochloride were only feebly toxic to rabbits. The mother-liquid from which the salt crystallized was however more poisonous, and is stated to have contained the salt of a poisonous base $C_5H_{11}N$, isomeric with piperidine.

E. and A. Salkowsky obtained from putrid flesh and fibrine a base which they analyzed and to which they assign the formula $C_5H_{11}NO_2$; but it was not poisonous, and is probably not a ptomaine, but an amide of valeric acid.

The labors of Guareschi and Mosso are most important, tending to discredit much of the previous work

1 American Journal of Pharmacy, April 1884, page 206.
2 The Practitioner, June, 1884, page 449.
3 The Lancet, February 9, 1884, page 265.
4 The British Medical Journal, June 14, 1884, page 1136.

done in this field, and to condemn Dragendorff's method for separating the alkaloids in medico-legal analyses. They find that commercial alcohols are seldom so pure as not to contain bodies reacting like alkaloids; that commercial ether and chloroform need purification; and that ordinary amyl alcohol, and benzine contain pyridine. All experiments made with unpurified reagents are hence necessarily valueless. This circumstance may, perhaps, serve to explain the differences between observers, some of whom have been able, and others unable, to obtain similar results when working with like materials. From so much as eighty pounds of putrid human brains, only insignificant quantities of ptomaines were obtained, too small for analysis; and these, in doses of one fifth to five grains, given to frogs subcutaneously, produced effects like curare, though it required the larger of the above doses to kill the animal. Experiments made with guinea-pigs convinced the authors that the ptomaine of human brains could not be confounded with any known poison in toxicological investigations by its effects upon animals.

From the putrefaction of enormous quantities of fibrine there resulted a base, with alkaloidal reactions, and forming double platinum and gold salts. The composition of this base is represented by the formula $C_{10}H_{15}N$ or $C_{10}H_{13}N$. The discrepancies in the analytical results are not satisfactory. On frogs and birds the extracts containing this ptomaine acted like that obtained from putrid brains. Moreover, fresh brains yielded to Guareschi and Mosso, by the Otto-Stas method, small residues giving the general reactions of alkaloids. Beef, too, yielded minute residues with similar reactions. Fresh materials yielded almost no ptomaines. Dragendorff's method of extracting the alkaloids, in which dilute sulphuric acid is used as the solvent, resulted in more alkaloidal extract than the Otto-Stas method; and there is no doubt that the method of Dragendorff manufactures, so to speak, alkaloids. Coppola also has confirmed these results. He found that fresh dog's blood extracted by Dragendorff's method yielded abundant alkaloidal reactions; not so when extracted by chloroform. The large quantities of putrid material required to be operated on, often one or two hundred weight, to obtain ponderable quantities of a ptomaine, and the small toxicity of the substances thus obtained, except when employed in large doses, show that the probability of a ptomaine being mistaken for a vegetable alkaloid by a careful worker according to the Otto-Stas method is remote.

F. Marino-Zuco [1] states that the so-called ptomaines of Selmi are nothing but neurin.

SALICYLIC ACID AS A FOOD PRESERVATIVE.

The frequent employment of salicylic acid as a constituent of food preservatives makes important any investigations tending to show the effect on the system of the long continued use of this substance. The Comité Consultatif d'Hygiène Publique [2] has on two separate occasions reported against its employment as an agent for the preservation of articles of food. As this conclusion has been much opposed by those interested in such employment, a subcommittee of the body in question has reconsidered the matter, and their reporter, Professor Brouardel, has published their conclusions on this subject in a recent number of the *Annales d'Hygiène.*

He observes that, although the beneficial operation of salicylic acid in certain diseases is fully admitted, the theory of its action is very imperfectly understood. It is known, however, that when introduced into the economy it is eliminated by the kidneys and liver; and its warmest partisans admit that its use is contra-indicated in the subjects of those diseases which prevent its due elimination, and thus give rise to an accumulation that in several instances has proved fatal. Moreover, elimination is sometimes impeded from unknown causes in persons in whom the functions of these organs work healthily, while in aged persons it is always very slow. Under any circumstances, only a portion of the salicylic acid is eliminated, the remainder undergoing combinations in the tissues, which, although they may prove therapeutically useful, and even for a time produce no evil consequences, could not be indefinitely prolonged without mischief ensuing.

Even small doses of the salicylate may prove dangerous to persons who eliminate it imperfectly; and Professor Brouardel's investigations during several years past lead him to believe that the number of such persons is largely on the increase. Since 1861 he has analyzed the urine of all patients entering his hospital service, and his registers show that the frequency of albuminuria has more than doubled during the last twenty years. Now, these patients are not all condemned to an early death, for many recover and others live for many years; and when examples are adduced of young and robust persons tolerating the daily use of from four to six grammes of the salicylates for months or years, we must not forget the aged persons and albuminurics, and individuals the subjects of various kinds of hepatic and renal disease, whose lives might be seriously compromised by such a regimen. The committee, therefore, believing that for such persons the daily use of salicylic acid would be highly dangerous, while even for those in good health there is no proof that it would be innocuous, recommend that its present prohibition should be maintained.

THE DANGERS OF CANNED FOODS.

During the past few years the use of canned foods has become very extensive. From time to time cases of supposed poisoning from the use of such foods have been reported, and in most of the reported cases the presence of some injurious compound of tin has been alleged, although in some cases lead has been identified as the probable injurious contamination. Dr. Henry Leffmann [3] has found, especially in the case of canned peaches, that tin is the metal dissolved. He observes that the solution requires considerable time. In all the cases in which contamination was found by him the fruits were more than a year old. Chemical tests were made on these samples, because they had caused some irritation of the stomach in persons who had partaken of them. Dr. Leffmann mentions a report of A. Winter Blyth, Medical Officer of Health to Marylebone, London, by which it appears that of twenty-one samples of preserved fruits, apricots, tomatoes, and pine-apples, every one contained a dangerous amount of tin, the least quantity found amounting to one and a half grains per pound, the largest to eleven grains per pound.

Dr. Johnson,[4] in a paper read before the New York Medico-Legal Society in April last, cites several cases

[1] Berichte der deutschen chemischen gesellschaft, 1884, page 1043.
[2] Medical Times and Gazette, February 16, 1884, page 217.
[3] Philadelphia Medical Times, December 15, 1883, page 198.
[4] Medical News, May 31, 1884, page 642.

of corrosive poisoning supposed to have been due to zinc chloride and tin chloride derived from the use of the "muriate of zinc" amalgam in soldering cans. This flux, consisting of a solution of zinc chloride, is said to be quite commonly used in the place of rosin flux, which is more troublesome, but harmless. Every care is said to be taken in its application, but as it is a poison, some risk of poisoning must attend its use.

Drs. Ungar and Bodländer,[1] of Germany, have recently examined a number of cans of vegetables and fruits, and in every instance found tin in the solid portion of the contents in the form of an insoluble stannous compound. The percentage of the impurity, calculated as metallic tin, was, however, very small, in no case exceeding 0.04 per cent.

Professor Attfield,[2] in a paper read at a meeting of the Pharmaceutical Society, March 5, 1884, expresses the opinion that the action of the fluids or juices of the food on the tin of the can, and consequent solution of the tin, and consequent admixture of a possibly assimilable compound of tin with the food, never occurs to an extent which, in relation to health, has any significance whatever. The occurrence of tin, not as a compound, but as the metal itself, is, if possible, still less important.

During the last fifteen years Professor Attfield has frequently examined canned foods, not only with respect to the food itself as food, and to the process of canning, but with regard to the relation of the food to the can itself. He gives the results of some analyses by which it appears that about one half of the articles examined contained no appreciable amount of tin; the remainder contained varying amounts up to 0.007 grains in a quarter of a pound. The largest amount of tin he ever detected in actual solution in food was in canned soup, containing a good deal of lemon juice. It amounted to only three hundredths of a grain in a half pint of the soup as sent to the table. He thinks that these proportions are undeserving of serious mention; that probably no article of canned food, not even the most acid fruit, if in a condition in which it can be eaten, has ever contained, in an ordinary table portion, as much of a soluble salt of tin as would amount to a harmless or useful medicinal dose; that, if a possibly harmful quantity of a soluble compound of tin be placed in a portion of canned food, the latter will have so marked a metallic taste that no sane person will eat it. This opinion seems to be in accord with the known effects of the very soluble chloride of tin upon animals and man.

Professor Attfield has occasionally met with small pieces of metallic tin in canned foods, perhaps amounting in some of the cases to a few tenths of a grain per pound. These are chipped off from the tin sheets in the operations of cutting, bending, or hammering the parts of the can, or possibly melted off in the operations necessary for the soldering together of the joints of the can, or perhaps cut off by the knife in opening the can. He considers these perfectly harmless. Respecting the globules of solder (lead and tin) that are occasionally met with in canned food, he believes that most persons detect them in the mouth and remove them, as they would shots in game; but if swallowed they do no harm.

He thinks it just possible that in the early days of canning the use of "spirits of salt" in soldering may have resulted in the presence of tin, lead, or other chloride in canned food; but such a fault would soon be detected and corrected. It is just possible, also, that formerly the tin itself may have contained lead, but he has not found any lead in the sheet tin used for canning of late years.

The following are other conclusions to which the author has arrived: (1.) Unsoundness in meat does not appear to promote the corrosion or solution of tin. I have kept salmon in cans till it was putrid, testing it occasionally for tin. No trace of tin was detected. Nevertheless, food should not be allowed to remain for a few days, or even hours, in saucepans, metal baking pans, or opened tins or cans, otherwise it *may* taste metallic. (2.) Unsound food, canned or uncanned, may of course injure health, and where canned food really has done harm, the harm has in all probability been due to the food and not to the can. (3.) What has been termed idiosyncrasy must also be borne in mind. Serious results have followed the eating of oatmeal, shell-fish, salmon, and mutton. Possibly there were cases of idiosyncrasy in the eater, possibly the food was unsound, possibly other causes led to the result, but certainly, to my mind, the tin had nothing whatever to do with the matter. (4.) In my opinion, given after well weighing all evidence hitherto forthcoming, the public have not the faintest cause for alarm respecting the occurrence of tin, lead, or any other metal in canned foods.

[1] Medical News, May 31, 1884, page 642.

[2] American Journal of Pharmacy, May, 1884, page 269.

PEPTONURIA.

From an investigation of the frequency with which peptone appears in the urine, Von Jaksch[3] has drawn some interesting conclusions. It was found in seventy-six out of 354 cases; seventy-two being instances of inflammation or of pus accumulation, three of scorbutus, and one of phosphorus poisoning. He agrees with Hofmeister in thinking that the peptone is not merely dissolved in the pus (in those cases where pus formation is the predominant feature), but that it is contained in the pus corpuscles. With reference to the cases which were not purulent, he is of opinion that, from the increase of white corpuscles, as well as of the products of their destruction in the blood, it may be concluded that peptone may be set free in the blood by the destruction of these corpuscles, and may be excreted by the kidneys. He gives some examples showing that the onset and course of peptonuria may be of use as a sign of the commencement and cessation of the absorption of inflammatory products.

[3] Edinburgh Medical Journal, May, 1884, page 1059.

Hospital Practice and Clinical Memoranda.

A CONCRETION IN THE EXTERNAL AUDITORY MEATUS.

BY DAVID COGGIN, M. D., SALEM, MASS.

An American lady, aged forty-five years, consulted me on the 11th of July last because of deafness in her left ear. The canal was occluded by wax, and after its removal the hearing was normal.

The patient then expressed the wish that the hearing in her right ear might be as easily restored. She stated that there had been a fœtid discharge from it since her childhood, when she had scarlet fever. Of

late years, in spite of her endeavors to keep the ear clean, the odor had been so noisome as to cause her to avoid mingling in society. Watch heard only on contact. On attempting to introduce a speculum, it struck a hard, gritty substance, just within the cartilaginous portion of the meatus. With forceps, this was found to be firmly fixed. By picking it, filaments resembling cotton fibres were drawn out.

The patient said she was positive that cotton-batting had not been introduced in the canal for over twenty years.

Not succeeding in withdrawing the foreign body with the angular forceps, a pair of strong, straight ones was used, and it was only after several trials, and by the employment of considerable force, that the offending plug was removed *en masse*. The lining integument of the meatus was much ulcerated, or bathed in blood and pus. In the lower and posterior quadrant of the drum there was a perforation. After cleansing the middle ear, the watch was heard at five centimeters.

The cretaceous cast of the meatus that was extracted was about twelve millimeters in length, of a dirty gray color, and closely resembled an ordinary pebble. Cotton fibres were readily recognized in the particles of the concretions that were broken off.

Because of the very unpleasant nature of the specimen in the consulting-room, it was at once destroyed, so no careful examination of it was made. Doubtless the deposition on the pledget of cotton, of lime, and other salts from the pus that for two decades was being poured out, resulted in the stalagmitic formation that was encountered.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

MARCH 8, 1884. The President, DR. C. ELLERY STEDMAN, in the chair.

LABOR IN A CASE WITH CONTRACTED CONJUGATE.

DR. W. E. BOARDMAN reported a case of labor in which the pelvis was contracted in the conjugate diameter, and in which version and perforation of the aftercoming head were performed.[1]

DR. RICHARDSON said that this was the most difficult and at the same time the most interesting case he had ever seen in the Lying-In Hospital. Considering the long and difficult operation to which the patient had been subjected, it was surprising to see what a convalescence she had. Dr. Richardson also spoke of the advantage of using forceps with the pelvic curve reversed in cases in which the occiput was posterior and the head extended, and he alluded to a case in which he had so used the forceps with success. He thought that after version, when the occiput remains posterior, the forceps could be used to advantage with reversed pelvic curve. In answer to a question by Dr. Lyman as to how high the head was in the case to which he had alluded, when he applied the forceps reversed, Dr. Richardson said that the head was above the superior strait.

[1] See page 176 of this number of the JOURNAL.

DR. C. E. STEDMAN asked what experience members had had with repaired perinæums in subsequent labors. He had had one case in which the new perinæum had not torn in the next succeeding labor. He also inquired how many members had seen fatal hæmorrhage consequent upon laceration of the cervix in labor. He had seen two cases of severe hæmorrhage from lacerated cervix, and also two fatal cases, in one of which the cervix was known to be torn, and in one in which it was thought to be.

DR. HODGDON had seen one case in which a severe pain had lacerated the rigid os and brought the head to the perinæum: hæmorrhage was so severe that the patient fainted before it was controlled.

A SANITARY TOWEL.

DR. CURTIS showed an English sanitary towel for the use of menstruating women: the towel was made of borated cotton, and provided with suitable tapes for adjustment. These napkins were soft, deodorizing and comfortable, and could be thrown away when soiled.

DR. BROWN spoke of an American towel which had been well spoken of: it was made of absorbent cotton and had a thicker band than the English pattern.

DR. DOE had found these towels of value in the lying-in room.

DR. BOARDMAN said that in the Lying-In Hospital a pad was used after labor made of gauze and carbolized charpie: the charpie, he thought, held the secretions better than absorbent cotton.

DIFFICULT DENTITION.

DR. LYMAN alluded to a case of difficult dentition. On two separate occasions, with the advent of the last molars, the child had convulsions followed immediately by severe spasmodic asthma with labored breathing, sonorous and sibilant râles; the symptoms subsided in a few days without treatment, as the local irritation in the jaw passed away. He supposed the pulmonary complication to be purely reflex and similar to the well-known cases of the so-called ear cough.

PLACENTA PRÆVIA.

DR. O. W. DOE reported a case of placenta prævia as illustrating the ease and rapidity with which labor may be induced and completed when this complication arises.

Mrs. J., aged thirty-one, was confined with her first child on the 23d of December, 1879, after a normal labor of twelve hours. Two years and eight months later her second child was born after a very easy and normal labor of three hours: post-partum hæmorrhage ensued directly, which caused a somewhat protracted convalescence. Her catamenia last appeared on May 30, 1883, the second child being then eight months old. Pregnancy caused but little discomfort, though she complained continually of lack of her usual strength.

On February 13th she was suddenly seized with hæmorrhage from the vagina sufficient to thoroughly soak a napkin. There was no pain whatever attending it. She lived out of town, and when I saw her at 3.30 P. M. there had been no recurrence of the sudden flow; but there had been a constant dribbling which had increased during the last half hour. On examination the os was found to be very soft and dilatable, easily admitting two fingers. The head was presenting, but disengaged and freely movable. The placenta

was situated to the left, close to, but not overlapping, the os. Remembering the rapidity with which the cervix dilated at her previous confinement, and knowing that she had a very roomy pelvis, I decided to deliver her at once. To guard against a recurrence of post-partum hæmorrhage, I gave her at four o'clock one fluid drachm of extract of ergot. Ten minutes later I ruptured the membranes and, finding that the head was forcing the placenta before it, I proceeded at once to dilate with my hand, in order to complete the labor by turning. This was accomplished very easily, and the child, a strong, healthy girl, weighing six pounds, was delivered in twenty-five minutes from the time I began the dilatation. The placenta was expelled five minutes later by pressure, and no undue hæmorrhage followed.

The patient made a rapid and uninterrupted convalescence.

DR. FORSTER asked why Dr. Doe gave ergot: the reply was that in a previous labor the patient had had post-partum hæmorrhage, and the ergot was given to forestall the same accident in this case: from his previous knowledge of the pelvis Dr. Doe knew he could deliver the child before the ergot acted.

Medical and Surgical Journal.

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RECOVERIES FROM INSANITY.

IN the last annual report of the Boston City Lunatic Asylum, Dr. T. W. Fisher, the superintendent, has some interesting remarks on the recovery-rate in lunatic hospitals. He is puzzled to understand the great difference in the recovery-rate between the hospitals of all grades in England and Wales and our own State hospitals. "Why," he asks, "do forty per cent. of the admissions *appear* to recover in the former case, and only twenty per cent. in the latter?" His own percentage of recoveries has been nearly forty, and he cites a number of insane hospitals outside the State in which thirty-five to forty-one per cent. of the patients recovered.

He answers his own question by saying, in substance, that it is largely the personal judgment of the superintendent which leads to the wide discrepancy. In this he is undoubtedly correct, and even to a greater degree than we ordinarily suspect. In the first place, insane hospital superintendents are mortal like other men, and both from temperament and education liable to wide differences of opinion. The morbidly conscientious, over-sensitive, or too scientific man will reject as undetermined that which the over-sanguine and ignorant man accepts willingly as a fact.

The former kind of man will often be in doubt how to classify a case. He will see imaginary symptoms, fear an immediate relapse, or hesitate to try the effect of home surroundings. He is apt to keep a patient too long and lose the golden moment to discharge him, when recovery would be permanently established by so doing. Finally, when too late, the patient leaves, "much improved," but never to be perfectly well. The over-sanguine man, on the other hand, jumps at his conclusions, and by a series of mental gymnastics accomplishes brilliant, not to say startling, results. To him amelioration means recovery, and his patients go home weeks or months before the proper time. His recovery-rate will be large and flattering to his institution. He keeps no table of relapses or homicides committed by discharged patients, and his conscience will be easy.

For the most gifted of men insanity is a disease extremely difficult to understand. There is no fixed standard of mental health, and as truly none of mental disease. Each case is in some feature unlike all others. There may be and usually is some clearly demonstrated physical ailment, existing as a complication. Beyond these questions of mental and physical manifestations, is that of the liberty of the subject. The latter question is one which is sure to become more and more difficult to settle as we better understand the nature of insanity. Some of those patients formerly sent to a "close asylum," so-called, will do better in a small open institution on the voluntary plan, without total deprivation of liberty, and a larger number of cases of incipient insanity, or insanity with a preponderance of moral symptoms, will be sent earlier to a lunatic hospital. As the means of treatment become more varied and scientific, greater skill and knowledge will be required on the part of the alienist to properly use them, for while many diseases do well on the let-alone plan, insanity requires very early and decided treatment to effect its cure. In the decision of all these matters, what Dr. Fisher calls the "personal equation" will have a direct and important bearing on the recovery-rate.

Dr. Fisher speaks of the researches of Drs. Earle and Parks in relation to the recurrence of insanity, and thinks these researches have had a tendency to lower the apparent recovery-rate of the State hospitals. "Recovery and Recurrence," he says, "are two different questions and it is impossible to predetermine the permanency of the yearly recoveries in an annual report." Every patient discharged without trace of insanity and well enough to resume family relations should properly be called recovered. The fact that he has been insane before, or possibly may be again, does not change his condition on discharge. If free at that time from mental disease, he is to all intents and purposes well. We do not think that Dr. Earle's very valuable investigations can change this rule. But undoubtedly they have made superintendents more careful in putting down patients as recovered, and have especially shed light on the *permanency* of *recovery* and in that way added to our knowledge of insanity.

Fifty years ago Dr. Samuel B. Woodward, super-

intendent of our then only State hospital at Worcester, after stating that the average percentage of recoveries for that year had been fifty-five and three fourths,[1] proceeds to compare this showing with foreign insane hospitals. He finds in thirteen in Great Britain an average of thirty-five per cent. In five French hospitals forty-three per cent., and in four German hospitals thirty-one per cent. "Oh! what a falling off is there," we might well say, in looking at our present results. Our recoveries have been reduced nearly two thirds, while England's have materially increased.

If we take another comparison, we find, according to Dr. Fisher's report, that the percentage of recoveries in our four State hospitals for cases of all kinds have been six and one half per cent. Dr. Woodward states that Esquirol for the eight years previous to 1834 had a percentage of recoveries on all cases of twenty-five and one fourth, while at the Worcester Hospital for four years the proportion of recoveries on all cases was thirty-eight and four fifths per cent.

These figures must of course be accepted for what they are worth. From any point of view they show a falling off in the recovery-rate. If we should, however, take other lunatic hospitals, the contrast would be less striking. This, for instance, is the case in Scotland, where, according to the Commissioners on Lunacy, there is a diminished death-rate, an increased recovery-rate, and a smaller increase in incurable patients, than in asylums in other countries. In England the Lunacy Commissioners have said that the increase in fresh cases of insanity is not out of proportion to the increase in population.

Such statements as these make us throw off a little of the deep melancholy into which we have been plunged by reading some of our State Insane Hospital reports. And we even have the courage to assert that our observation and reading have led us to the conclusion that at least thirty per cent. of all cases of insanity admitted into lunatic hospitals are discharged recovered. Of late years the recovery-rate has risen, rather than fallen off.

MEDICAL VERNACULAR.[2]

A SHORT time since the JOURNAL referred to some expressions more or less commonly used by the laity (particularly those of foreign extraction), in describing the state of their bodily health. Some other phrases have since suggested themselves which may also be of interest to mention in this connection.

First, there is a word which is in very general popular use among patients of all classes, but which is applied to very different things. To bloat is in general to swell, and when a person says he "has been bloated" one is apt to understand that there has been œdema. It is the favorite vernacular word for ascitic distention. But it is also applied to flatulence, as when one says that he is "apt to bloat every day after dinner." By derivation this is apparently the more correct use of the word. *Bloat*, to wit, *blowed*, should refer to a distention with gas rather than with fluid. This word is cited to show that what is intended by the patient as a definite term may and often does require further investigation by the physician.

A curious misapprehension exists among the lower ranks of society regarding the word *fracture*. We remember that once having had occasion to make a diagnosis of broken arm in an Irish child, the mother thanked God with great unction that it any way was n't "a fracture," which mishap, it seems, she had once suffered from herself. We have several times observed this peculiar dread of a fracture over and above that of a broken bone (though what was the distinction in the speaker's mind has never been made clear), and recall the awe-stricken way in which, after an opinion had been expressed that no bones were broken, the question was asked, "Do ye think is it a fracture?"

The "spine of the back," an expression which seems at first sight rather tautological, is, perhaps, after all, only an accurate and discriminating utterance. If *spine* (French *épine*) is a thorn, and the vertebral column is so called only by metonomy from the spinal processes which are in the living subject its most obvious part, who shall say that the patient who complains of a bad pain in the "spine of his back," is not speaking with at least scientific accuracy in excluding other spines, as that of the ischium or pubes.

"Doctor, how are my pulse?" is a question often heard in our hospitals. Even those who in general pay no regard to maintaining a correspondence between the number of their nouns and of their verbs, yet draw the line at their imagined plural *pulse*, perhaps out of respect for it as a scientific word. "His hands is cold, but his pulse are good," say such persons. Acquaintance with the sound rather than with the looks of the word is, of course, the obvious explanation of this error. We remember on one occasion to have been fortunate enough to hear the singular *pult*. Yet in general the plural does not presuppose a singular any more than to a carrier of ashes does that term suggest an ash.

"Spits" is good Saxon, and has the advantage in brevity over its Latin brother. "To heave up bad spits" is the fate of many a luckless emigrant to our bleak New England shore. With the native politeness, which is one of the most delightful characteristics of the Irish race, he always adds after any such unpleasant allusion, "saving your presence" or "wid respects to ye." The mention of vomiting is made with similar deprecation unless, indeed, the expulsive effort is ineffectual, in which case it is merely a "dry reachin'."

"A sore troath" is an ailment of frequent occurrence. The transposition of the *t* and the *th* in this word is almost universal among the Irish. The word recalls to us a curious instance of the persistence of an obsolete word which lately came under our observation. A domestic (a Nova-Scotian, we believe,) spoke of having the *squinancy*. No one of the family could

[1] This percentage is based on *discharges*. It would be nearly four per cent. less calculated on *admissions*.

[2] Continued from page 141.

understand what she meant until the head of the household recollected the word as being old English, and used by Bacon. Squinance, squinancy, squinsy, are the successive steps which led to *quinsy*. All, as also the Italian *squinanzia*, the Spanish *esquinancia*, the French *esquinancie*, have a common parent in κυνάγχη (κύων ἄγχω) the "dog-throttling," that choking which is as when one is throttled by a dog. The Latin form, *Cynanche*, has persisted in medicine to the present day, as in "Cynanche maligna," but the cognate English word, squinancy, has dropped so far out of sight as to be at present almost unintelligible, except, strange to say, among the farming population of Nova Scotia.

ANTHROPOPHAGY.

Recent disclosures in connection with the survivors of the Greely Arctic expedition have called attention strongly to the above subject. Evidence obtained from the exhumation of the remains of Lieutenant Kislingbury makes it certain that during the latter period of their struggle with starvation some, at least, of the men made use of human flesh as food. We cannot but regard the persistent efforts of certain newspapers to discover and promulgate these facts as uncalled for, and the surviving friends who have claimed autopsies have, we think, acted unwisely for their own peace of mind in converting what would have otherwise remained an open question, at least in regard to individuals, into a ghastly certainty. There seems to be no evidence and, perhaps, from the nature of the case, never can be any to show that the death of any member of the party was due to violence, except in the case of Private Henry, who was shot by order of the commander after repeated infractions of discipline under circumstances calculated to prejudice the safety of all his companions, and after receiving an exhibition of leniency much greater than would ordinarily be expected of a military commander. The fact that his body was eaten will, of course, raise questions as to the singleness of the motive which caused his execution, but the explanation given seems ample.

Admitting, then, the fact of human remains having been eaten by men in dire extremity, we can hardly understand the public horror at the fact, or the strenuous denials persisted in alike by survivors and government officials. The appropriate feeling seems to us rather to be one of profound pity for those subjected to such distress, and the indignation, if any, should be reserved for those, whoever they may be, who are responsible for the neglect and abandonment of the explorers to the bitter cold and the foodless solitudes of the Arctic shores.

The subject of anthropophagy is one of interest to the ethnologist and the physician. The question has been discussed whether it was practiced by primitive man, and so whether it was to be regarded as a natural instinct. The prevalent opinion seems to be that while there is some evidence that individuals may have eaten human flesh, yet at that period, as now, the majority were not addicted to it. The bones which have been found of this period were mostly intact, and it is argued that were the individuals eaten, the bones would be found broken either as a means of getting off the flesh or of extracting the marrow.

Evidence is not wanting that cannibalism was practiced in countries now the foremost in civilization. St. Jerome, writing about 380, says of a valiant tribe of Caledonia: "Cum ipse in Galliâ viderim Attacottos (vel *Scotos*) gentem Brittanicam humanis vesci carnibus . . . pastorum *nates* et feminarum *papillas* solere abscindere: et has solas ciborum delicias arbitrari."[1]

In the chronicles of the *Welsh Triads*[2] charges of cannibalism are freely made against the Saxon conquerors. Ethelfrith (King of Northumbria, A. D. 593) encouraged it, and Gwrgi, a Welshman residing at the court, became so addicted to it that he would eat no other meat. A man and a woman were slain for him daily, and on Saturdays two of each, in order that the Sabbath might not be broken! But much later than this cannibalism continued to be practiced. Lindsay of Pitscottie, writing in 1460 of what had transpired within the recollection of people then living, tells of a family of cannibals, of whom one, a daughter, had become so enamoured of human food that she said to her executioners: "Give me credence and trow me if you had experience of eating men and women's flesh, ye wold think it so delicious ye wold never forbear it again."[3]

The inhabitants of the island of Shetland are said to have eaten those who were shipwrecked upon the island. Cannibalism was also practiced in the vicinity of Glasgow and of Perth in the fourteenth century.[4]

The eating of human flesh for other purposes than averting starvation is not unknown in later days among civilized peoples. During the French Revolution one of the mob plucked out the heart of the Princess Lamballe, and took it to a restaurant, where it was cooked and eaten by him. Sir Ewen Cameron of Locheil, the great Highland chief, killed an English trooper by taking a bite out of his throat, and used to say that it was the sweetest morsel he ever tasted;[5] a remark almost identical with that ascribed to Richard Cœur de Lion, when, on recovering from sickness and longing for a piece of pork, he could not obtain it, but was given as a substitute a piece of a Saracen's head.

Voluntary cannibalism at the present day has substantially disappeared, except in remote localities. The brown races of Polynesia, until within a few years, practiced it as a religious rite; the New Zealanders only when inflamed with hatred against their enemies; while the Fiji natives almost alone practiced it from actual relish. Pork and human flesh were the only kinds of meat to be had, and the latter was considered the greater delicacy. A writer[6] describes a banquet at which ten bodies were served.

The somewhat curious fact has been pointed out[7] that the people most systematically addicted to canni-

1 Gibbon, Decline and Fall, vol. ii., chap. xxv.
2 Chambers' Book of Days, vol. i., p. 688.
3 Loc. cit.
4 Buckle, History of Civilization, vol. iii., chap. i.
5 Chambers' Cyclopædia, vol. ii., p. 564.
6 Harper's Magazine, September, 1853.
7 Chambers' Cyclopædia, loc. cit.

balism are not the most degraded of the human race. The latter types, as a rule, feed on worms and herbs, while the New Zealanders and Hawaiians (both systematic anthropophagi) were much more perfect physically than the Australians, whose small food they despised. A banquet hall in New Zealand in which cannibalism was regularly practiced was a highly ornamented building, "one of the finest specimens yet extant."

Famine, siege, and shipwreck have been the causes of involuntary cannibalism, and at the present time the last mentioned is the only contingency likely to lead to this terrible necessity. The chief question of medical interest is what is the effect upon the bodily organization of such food. The mental influence, of course, should be taken into account, although it is probable that before yielding to this necessity the mind of the sufferer has already reached a point where all other feelings, as of religion, sentiment, emotion, respect, are swallowed up in one overwhelming frenzy for food. After the hunger is in a measure appeased the psychical faculties may regain enough of their normal tone to sink the victim into a state of profound depression. Of course, from the nature of the case, observations must forever be wanting as to the mental state of a starving man.

Physiologically, human flesh is, of course, a nitrogenous food, and as such, under the same conditions as the flesh of other animals, is capable of supporting life. Human milk is one of the most perfect aliments known. Human blood is transfused into the veins of persons exsanguinated, and restores their strength, otherwise irrevocably lost. The taste of human flesh is probably not greatly different from that of the other mammalia. If we could conceive one being fed with it unwittingly, as was Thyestes in the ancient myth, he would probably be none the worse for it — would possibly relish it.

These remarks are qualified by the fact that it is rarely that starving men obtain the flesh of the human animal under circumstances which admit of its having any comparison with that of other animals as a nutriment. Worn out with toil, wasted by hunger, and probably dying of starvation or of disease, the flesh is likely, like any other diseased flesh, to disagree, and to cause digestive disturbance. The exceptional circumstance of a violent death occurring to a man in fair health would furnish a food, probably nutritious, and certainly, as we believe, quite legitimate when the sole means of prolonging life. Even a natural death from certain forms of disease, as, for instance, cerebral hæmorrhage, would probably not materially injure the body for purposes of food. The bleeding of a slaughtered animal, while in accordance with the ancient Mosaic ritual and with modern custom, for the purpose of whitening the meat, improving its flavor, and enhancing its period of preservation,[1] is not absolutely essential, and its neglect in the case of disease supposed, especially in an arctic climate, would probably cause no serious ill effects. Other causes of death, such as septic diseases, those involving fever, tuberculosis, and the like, would doubtless subject the consumer to grave risks.

It is to be wished that those who by such terrible experience of hardship have been brought to the dreadful necessity of subsisting upon the flesh of their dead fellow-men could feel assured of popular sympathy and pity, and that, inasmuch as publicity has been given to the unfortunate facts, we might have such results of their sad experience as may be of physiological value.

[1] Pavy, Food and Dietetics, page 149.

It must be borne in mind that the Greely party when found, and probably for months before, were none of them in a normal condition of body or mind; that famine brings the strong man low down in the animal scale; that under its influence the powers of the mind are progressively suspended, those being first suspended which are the most recent products of civilization, — among them the sense of moral obligation and of decency; that "the normal highest level of evolution, the topmost layer" (to use Hughlings Jackson's phraseology), is rendered "functionless" under the "dissolution" which prolonged want of food occasions; that individuals from hunger and anæmia and emaciation eventually reach a level where the automatic and instinctive impulses are everything, and the voluntary are nothing; that, in fact, there is a lower stage of evolution where, to use a homely phrase, "dog can eat dog," are truths with which physiologists are familiar.

Far, then, from wondering that anthropophagy occurred among the dismal experiences at Cape Sabine, we should look upon it as one of the most natural things that could happen under the circumstances, and the necessity of the situation and the deplorable physical and mental condition of the men should be a sufficient justification of the act.

"In passing by certain pathological conditions where hunger presents itself in an inexorable manner" (we quote from the work of Longet), "we witness similar phenomena in the case of men of previously sound organizations, but deprived of food. We are compelled to believe that in these cases a pathological state supervenes, a particular delirium, the delirium of famine. The starving wretch is under the domination of resistless egoistic impulses. In vain the moral law commands, in vain social laws and customs menace and restrain; hunger speaks louder than law, than reason, than sentiment. It is a matter of history that in years of famine crimes against the proprieties of civilized life increase in a marked manner; in savage countries, where hunting is the principal means of support, cannibalism is often practiced in times of great scarcity.

"Instances of anthropophagy during times of famine are not exceedingly infrequent, and the history of shipwrecks and sieges, in the horrible truths therein attested, has left nothing for the imagination of poets to invent, when it has told us of mothers taking the lives of their own babes that they might have whereon to satisfy the cravings of their own hunger. Where the

maternal sentiment dies, what noble sentiment can remain?"

Since the above was in type Greely's published statement has appeared. It is proper that his denial of any personal participation in the cannibalism, — much as it may have been justifiable under the circumstances, — should have as wide currency as the original charges: —

"I can but repeat that if there was any cannibalism, and there now seems to be no doubt about it, the man-eating was done in secrecy, and entirely without my knowledge, and contrary to my discipline. I can give no stronger denial. . . . The crew of the Thetis can testify that the body of the last man dead, Schneider, was not mutilated in any way; and the fact that we kept Ellison alive in the hopeless state we were in ought to convince anybody that we are not cannibals, at least not an organized body of cannibals. When I increased poor Ellison's rations, to the detriment of the rest of us, not a man complained, although knowing that it decreased our space of life in a terrible degree. . . .

"For days and weeks I lay on my back unable to move. If, in my enfeebled condition, one or more of my men fed upon human flesh, it was beyond my control, and certainly beyond my knowledge."

For the living it seems to us there would be greater safety in the solitude of the arctic ice, with such a company as the returned explorers, whatever truth there may be in the present "charges" of cannibalism, than in the dullness of summer months in a populous country where newspapers existed and felt the necessity of furnishing daily a new sensation.

MEDICAL NOTES.

— A steamer of the Savannah line which arrived in this city last week brought a large number of watermelons, some three thousand of which were condemned by the Inspector of Provisions and ordered to be dumped into the city scow. A large number of the melons disappeared from the wagons during their transit. The drivers say that these were stolen by boys whom they (the drivers) were unable to keep from plundering the carts. This story looks somewhat improbable in view of the fact that fruit is constantly transported through our streets in wagons without risk of molestation. Moreover, it is claimed that the drivers themselves picked out a number of the best-looking melons and disposed of them to cheap dealers. Numerous cases of illness were reported among boys and others who got possession of the decaying fruit and who ate heartily of it in spite of its bad condition. Opportunity for such evils is favored by the fact that the transportation of condemned fruit is compelled from the owners, the city making no provision for removing it. Under such circumstances there is an obvious temptation to owners and teamsters to redeem something from the loss. In certain cases of disputed ownership fruit has been left to rot on the wharf to the discomfort and even danger of the abuttors, while the authorities were trying to decide whose was the responsibility for the removal. In all such cases it would seem wiser for the removal of condemned fruit to be made by the municipal authorities themselves, the expense if necessary being afterward collected from the owners.

— Sir Erasmus Wilson, LL. D., F. R. S., the well-known and prolific writer on dermatology, and late President of the Royal College of Surgeons of England, died August 8th. He was born in 1809, became a member of the Royal College of Surgeons in 1831, Fellow in 1843, member of the Council in 1870, and President in 1881. He founded the Chair of Dermatology and the Museum of Dermatology in the College of Surgeons in 1869, and was elected the first professor. He made munificent gifts to hospitals, also founded a chair of pathology in the University of Aberdeen. He took a great interest in Egyptology, and it was through his munificence that Cleopatra's Needle was transported from the borders of the Nile and erected on the Thames embankment in London.

— The *Lancet*, in a recent number (July 12, 1884), says: "We understand that Dr. Lyons, M. P., has given notice of an important amendment to be inserted in the Medical Act Amendment Bill, to the effect that two physicians of over twenty years' standing should be made life peers and act as lord justices of appeal in medico-legal trials. Such appointments have been urged by Sir Spencer Wells, Dr. Theodore Williams, and others, and will, if made, considerably strengthen the hands of justice."

—Professor R. Harvey, of Calcutta, advocates the use of the forceps in breech presentations in certain cases (*Indian Medical Gazette*, June, 1884). A number of obstetrical authorities have now declared in favor of this innovation.

— A correspondent of the *Medical Record* (May 17th) who had the opportunity for a number of weeks to make observations on the physical state of the leading female performers in a large circus, writes concerning the influence of their work on the general health, and on the menstrual and child-bearing functions. He found that the riding, jumping, and leaping did not influence pregnancy unfavorably. Temporary suppression of the menstrual fluid sometimes occurs during these exercises, and its duration tends to be prolonged; but an excessive loss was not found in any case. The non-existence of uterine disease could not certainly be ascertained; but it appeared probable, from the absence of pelvic discomfort and leucorrhœa, and from the excellent general health. Their faces did not exhibit any evidence of especial fatigue, and they all ate and slept well. Dr. Post furnishes particulars concerning five of these women: three being foremost riders, and two gymnasts. Their histories differed mainly in the fact that the gymnasts had early abortions without extraordinary cause, while the riders never miscarried, except as the result of a fall, their routine work not producing this effect. The routine life of the gymnast obviously much favors the dislodgment and expulsion of the ovum at an early

stage. But it must be observed that her costume furnishes much less facility for concealing pregnancy, and, therefore, a greater temptation for provoking abortion than is the case with the rider, who can exhibit throughout the eighth month without detection. The fact that pregnant women can undergo the violent exertion they have to sustain while in the ring, and yet bring forth healthy children at term, and suckle them, is most remarkable. The explanation in part lies in their having pursued this habit of life from childhood, the muscular attachments of the uterus being probably rendered unusually firm by the training that has been pursued. Menstruation, however, is more injuriously affected, dysmenorrhœa of some kind being the rule among these women. The menstrual discharge often becomes suppressed during performance, to appear afterwards in excess. The influence of the work on involution of the uterus seems good, for some of these women returned to their occupation in from four to six weeks after confinement, without injury. In some of these women the chest development was very fine, measuring under the clothing thirty-four, thirty-six, and thirty-eight inches in individuals weighing less than one hundred and thirty pounds. With a superb bust curve, in none of them were the breasts large, the effect being obtained by the "ribbing out" of the thorax, which renders even a small breast prominent.

Correspondence.

THE PLASTER-POSTERIOR SPLINT.

MR. EDITOR, — I feel called upon to make a brief reply to the letter of my friend, Dr. Bridgman, in your issue of the 14th ult.

And first let me state that I entirely coincide with Dr. Bridgman in his account of the introduction of the splint, yet as Dr. Gay first became acquainted with the splint through my application of it in the hospital wards, and as we have together taken much interest, not only in studying its indications and application, but also in trying to make it known to the profession at large, is it any wonder that, in a footnote to his valuable paper, he should unwittingly accord to me more credit than belongs to me or than I am willing to accept?

Additional explanation of the passage objected to is found in the fact that up to June, 1882, nothing was known of the new appliance outside of the hospital staff and graduates. At that time, however, on the occasion of the meeting of the Massachusetts Medical Society, Dr. Cushing and myself prepared specimens designed to demonstrate its application, this being, to the best of my knowledge, the first opportunity ever afforded the profession of becoming acquainted with it. I may add that, so far as I am aware, the first published description of the splint is from my pen, and may be found in Mr. Sampson Gamgee's "Treatment of Wounds and Fractures."

I wish, also, to assert my conviction that there does exist a very material difference in point of utility and desirability between the *posterior* splint, as described by Dr. Gay, and the *antero-posterior* splint, as introduced by Dr. Goodhue, and perpetuated by Dr. Bridgman.

Very truly yours,

RUFUS A. KINGMAN, M. D.

BOSTON, *August* 16, 1884.

Miscellany.

VACCINATION AND SYPHILITIC INFECTION.

OUR readers will remember that some two years ago certain experiments were carried out by Dr. Cory, the chief vaccinator attached to the National Vaccine Establishment in England, to test the current belief that vaccine lymph taken from a syphilitic person, if unmixed with the blood of the vaccinifer, does not contain the syphilitic virus, and is hence incapable of imparting syphilis by its inoculation. These experiments could only be carried out on his own person, and with true scientific devotion he set himself to work. The appendix to the report of the medical officer of the Local Government Board for 1882 contains a full account of these experiments. These are summarized in the July number of the *Practitioner*. The paper in which the matter is dealt with was prepared by Drs. Bristowe, Humphry, and Ballard, and Mr. Jonathan Hutchinson. It will be unnecessary for our present purpose to give an account of each experiment; indeed, all but the last one can be passed by with the explanation that children who were obviously syphilitic were selected as the vaccinifers; that in two cases they presented active symptoms of syphilis, and that, notwithstanding this, the ordinary precaution to avoid admixture of blood led to no transmission of the disease in connection with the vaccinations which were effected. The last experiment was performed on July 6, 1881. The vaccinifer was a female infant eighty-four days old. Ten days after birth she began to have "snuffles." When about four weeks of age an eruption appeared upon the arms, and this remained at the time when her lymph was used. There was also a sore upon the right buttock and one in the left nostril. The vesicles which had resulted from the child's vaccination were normal in appearance and not inflamed. The immediate neighborhood of the vesicles was free from eruption. Lymph was carefully taken, and the vaccination was performed in three places, but the operation was unsuccessful and no pock arose. But on the twenty-first day there was at two of the vaccinated places redness and a small papule. These papules grew rapidly. One soon exhibited an ulcer, and at this stage Dr. Humphry and Mr. Jonathan Hutchinson were consulted; both agreed that the spots were syphilitic, and with Mr. Hutchinson's reluctant concurrence they were both excised on the 11th August, the incisions uniting on the following day. But on the 14th one of the places was a little inflamed; on the 17th a gland in the axilla was tender; next day one of the wounds was distinctly inflamed and indurated, and there was a good deal of axillary pain. Towards the end of the month the throat was sore, the glands of the neck were painful, a roseolar rash appeared on the forehead, temples, back of the neck, and below the ears, and anti-syphilitic treatment was fully commenced. Referring to the experiments as carried out by the officer in question, the reporters then sum up as follows: —

"(1.) He has stated to us that the object he had in

view in instituting these experiments upon his own person was to test a current belief that vaccine lymph taken from a syphilitic person, if unmixed with the blood of the vaccinifer, does not contain the syphilitic virus, and is incapable of imparting syphilis by its inoculation. Having acquired syphilis at his last experiment, he had (apart from any question of vaccination) a second object in having the primary lesions excised, namely, to examine microscopically the excised parts, and to ascertain whether the excision would prevent constitutional disease or modify its course. It was further in order to give this second experiment fair scope that he abstained from submitting himself to anti-syphilitic treatment, until the signs of constitutional syphilis had become so clear that doubt of the failure of excision as a preventive measure could no longer be entertained.

"(2.) It is conclusively proved by his experiments that it is possible for syphilis to be communicated in vaccination from a vaccine vesicle on a syphilitic person, notwithstanding that the operation be performed with the utmost care to avoid the admixture with blood.

"(3.) It is to be remarked that the infants from whom he took lymph for his personal vaccination were, in all cases but one, not suffering from hereditary syphilis in a *latent* form, but were infants in whom *active* symptoms were unmistakably present, as shown by cutaneous eruption, snuffles, mucous tubercles, and ulcerations.

"(4.) Moreover, out of the four children thus used, only one was proved to have been capable of imparting syphilis by the lymph taken from its vaccine vesicle.

"(5.) This case is in conformity with general experience in the following respects, among others, namely, that when syphilis is communicated by inoculation the first appearance of the disease is at the seat of inoculation, the taint of the blood being in all cases preceded by a conspicuous, peculiar, and persistent manifestation of disease at the seat of inoculation.

"(6.) The infants from whom he took lymph for his experiments on his own person were in such a condition of obvious syphilitic disease as would certainly have precluded their use as vaccinifers by even an inconsiderate and reckless vaccinator. Indeed, they were selected by him for his self-vaccination because they were unquestionable syphilitic cases. It is a rule of practice in the profession not to use in vaccination lymph taken from a child in whom there is any suspicion whatever of syphilitic taint, or, indeed, in whom there is any skin disease, although of a character known to be harmless; and the observance of this professional rule is strictly enjoined by the Local Government Board in its instructions to public vaccinators through the country."

Perhaps the point of greatest interest in connection with these experiments has reference to their relation to the practice of vaccination as carried out in England. As to this Dr. Buchanan points out that quite apart from the question of the transmission of syphilis by vaccination it has been the practice of English vaccinators to avoid using any syphilitic children as vaccinifers, and the long-continued absence of any authenticated case of syphilization as the result of vaccination in this country led many to doubt whether such a result was ever possible. In order to attain success in the course of experiments to which we have adverted it was necessary deliberately and intentionally to break through an invariable rule of practice which all medical practitioners observe, and to repeat the experiment again and again in the face of repeated failures. So far as public vaccinators are concerned they are bound by the instruction, "Take lymph only from subjects who are in good health, . . . and always carefully examine the subject as to any existing skin disease, and especially as to any signs of hereditary syphilis;" and Dr. Buchanan comes to the conclusion that the observance of this rule offers all the safeguard needed, and that syphilis can only be imparted by a vaccinator in such a manner as no medical practitioner is likely by any accident or carelessness to imitate.

THE TREATMENT OF EPILEPTIFORM NEURALGIA BY NERVE-STRETCHING.

The synonym for this troublesome affection is "incurable facial tic," and in view of former therapeutic measures it seems to be a correct descriptive term. With the exception of the massive doses of opium (ten to thirty grains daily), which alone Trousseau considered of any value among drugs, nothing has been found to give permanent relief. Neurotomy and neurectomy are of only transient effect, but according to some authorities, among them Mr. Walsham,[1] nerve-stretching has given relief, whose permanence is to be inferred from the non-reappearance of pain during the intervals (in some cases long) since the operation. The particulars in some half dozen cases are thus given by Mr. Walsham. He says:—

In the first patient with this disease who came under my care I stretched the infra-orbital nerve. The neuralgia was of ten years' duration, and for two years of this time the patient had been actually bedridden, as the pain was beyond endurance when she attempted to get up. All medical remedies had been tried and failed. The operation was performed in February, 1879. She was completely relieved, and when last heard of, three years afterwards, by my friend, Mr. Anderson, who sent her to me, she expressed herself as having been cured. The second patient, a man thirty-two years old, who had been an out-patient of Dr. Lauder Brunton's, had had the neuralgia for nine years. He had formerly been in good circumstances, but in consequence of his pain had been rendered unfit for any mental exertion, and had gradually lost his business. The neuralgia was confined to the regions supplied by the auriculo-temporal and inferior dental nerves. He had consulted many of the most eminent physicians in London and Paris, and various homœopaths, medical rubbers, and electricians, and had had the inferior dental and mental nerves divided by Messrs. Tomes and Durham. In April, 1883, I stretched the auriculo-temporal nerve, and a week later the inferior dental from within the mouth. The relief from pain was complete; he has had none since, and is now again making headway in his business. The third patient, sixty years old, had suffered for eight years. The pain was confined principally to the inferior dental nerve. I stretched this in May, 1883. Since then he has had no pain except some slight twinges in the infra-orbital nerve (none in the inferior dental) for a few days in March, 1884, ten months subsequent to

[1] Practitioner, July.

the operation, after having got wet through and taken a violent cold whilst following his occupation as a gardener. The fourth patient, a man fifty-six years old, had been in St. Bartholomew's Hospital for some time under the care of Dr. Church, and more lately as an out-patient under Dr. Lauder Brunton, to whom I was indebted for the case. He had suffered for five years. In November, 1883, I stretched the inferior dental and infra-orbital nerves, and he has remained well since. The fifth, a man seventy-three years old, had suffered for ten years with pain, chiefly in the inferior dental. He had had the mental branch cut and stretched, with little or no benefit, at the National Hospital for Epilepsy. In March, 1884, I stretched the inferior dental from within the mouth. The patient, notwithstanding his age, had no bad symptom, and at present has had no return of his neuralgia.

In the sixth case a man, fifty-nine years old, had suffered for upwards of fourteen years. He had been under the care of several physicians, and had had the supra-orbital and infra-orbital stretched on various occasions. Looking to the success of the above cases I attempted to stretch these nerves again, but found, on cutting down upon them, that the tissues were so matted together, as the result of the previous operations, that it was impossible to isolate them. An aneurism needle was passed under the cicatricial tissue in the situation of the nerves, and an endeavor made to stretch it, but it did not yield to any appreciable extent. The pain was as severe after the operation as ever. On more closely questioning him it was found that although he said the pain began in the cheek and darted upwards over the head, it really began in the gums, in the region of the molar teeth, which had been previously extracted, that is, in the posterior dental nerves, and shot upwards towards the back of the orbit. In January, 1883, I removed Meckel's ganglion and the whole of the superior maxillary nerve, after having forcibly stretched its proximal end, from the foramen rotundum to the spot where it emerges on the cheek. The patient had no bad symptom; he slept well the night after the operation, better than he had done for months; he was up and about the ward in a few days, and has had no pain since.

TOXICOLOGY IN LITERATURE.

MR. A. WYNTER BLYTH, writing in the *Medical Times and Gazette* (August 2d), on Old and Modern Poison Lore, speaks of the inaccuracies of dramatists in their literary handling of poisons, and offers a suggestion of a poison suitable for the purposes of the playwright: —

"Few dramatists," he remarks, "have been happy in the description of death by poison; the death of Cleopatra, described by Shakespeare as resulting from the bite of a venomous snake, is like no clinical description of fatal illness from bites of any class of snakes.

"In Philip Massinger's play, The Duke of Milan, Francisco dusts over a plant with a poisonous powder; this plant Eugenia holds; Ludovico Sforza kisses her hand twice, and from this slight contact very rapidly dies — why, it is doubtful whether pure aconitine itself, the most powerful of all known substances, and only separated within the last few years, could be inhaled under these conditions in sufficient quantity to do harm.

"Beverley, in Edward Moore's Gamester, takes poison in the fifth act, after which he makes several pretty long speeches, and ultimately dies suddenly, but, so far as we can learn, with considerable calmness. Nathaniel Lee, in his tragedy, Alexander the Great, provides a poison for the destruction of the emperor, which is described as of 'exalted force.'

> "'. . . mixed with his wine a single drop gives death,
> And sends him howling to the shades below.'

Nevertheless, after taking the poison, Alexander walks about, declaims much, kills Clytus, and goes through the latter part of the fourth act, and most of the fifth, comfortably enough; then raves in delirium, regains his senses, and dies after a very fine speech. There was no poison known to the writers of the plays alluded to which would produce symptoms in any way similar. At the present day there is, however, a liquid made by artificial means, the effects of which are stranger than those imagined by play-writers — after it is swallowed the person walks about for an interval of time varying from a quarter of an hour to two hours. His skin, and even the whites of the eyes, become of a strange, purplish livid color, but he may feel fairly well; then the fatal symptoms set in with appalling suddenness, and he dies in a few minutes. For any one who delights in constructing stories of sensation, these occasional effects of nitro-benzine, just described — the weird blue color, the interval allowing of acts and rhapsodies, and the abrupt termination, afford considerable, although perhaps not commendable, scope."

THE ELIMINATION OF MERCURY DURING AND AFTER ITS CUTANEOUS EMPLOYMENT.

In a reprint from the *Journal of Cutaneous and Venereal Diseases*, vol. i., No. 12, Dr. Schuster, of Aix-la-Chapelle, gives the results of more than one hundred examinations respecting the elimination of mercury in syphilitic patients who were either still under treatment by mercurial inunction, or who had been thus treated for a time varying from one to twelve years. At first, only the urine was tested, by the Ludwig-Fürbringer method, modified by Schridde. Mercury was thus found often in small, but rarely in large quantity, during, and some weeks after, the mercurial treatment. Frequently, however, mercury was not found in the urine. Dr. Schuster, therefore, proceeded to examine the fæces, and found that mercury was always present in them. The result of forty examinations of the fæces was, that mercury was found regularly in relatively large quantity during mercurial inunction. The earliest examination was made ten days after the beginning of treatment. Mercury was found in the fæces for five and a half months after the end of the course, the examination being made at intervals of from ten to fourteen days. Mercury was found in the fæces in all cases in which it was found in the urine; but it was frequently absent from the urine when it was found in the fæces. From this Dr. Schuster draws the following conclusions: — (1.) The elimination of mercury by the fæces is regular and continuous. (2.) The elimination of mercury introduced by a course of inunction of from thirty to forty-five days is completed in six months. (3.) Persistence of mercury in the organism does not occur.

DEATH-PUNISHMENT BY HANGING.

UNDER the head of "Nugæ Hibernicæ," in the *British Medical Journal*, January 5, 1884, are some details of the mechanism of hanging as a death-punishment. Till recently the employment of a short drop, with consequent simple strangulation, led frequently to very painful scenes; but since the employment of the "long drop," fracture of the transverse process of the second cervical vertebra is caused, and instantaneous death takes place by injury to the medulla oblongata.

The drop in Ireland ranged at first from ten feet to seventeen feet, and death was instantaneous. Two cases occurred in which the weight of the criminal was the same, namely, 160 pounds, and the "long drop" the same, namely, fourteen feet; but in one case the transverse processes of the second vertebra were broken across, and in the other case the head was cut off by the rope. A scientific investigation of the ropes followed, and the cutting off of the head was found to be due to deficient elasticity of the rope. These cases led to a full discussion of the whole question, and particular attention was paid to the position of the noose, for which three positions were advocated, namely: (1.) The occipital position. (2.) The subaural position. (3.) The submental position.

(1.) The "occipital knot" had practice in its favor, handed down from the old times of the "short drop;" but experience showed that the "long drop" and "occipital knot" divided all the soft tissues of the neck, except the skin, before the blow reached the second cervical vertebra and medulla oblongata, and there was not sufficient margin of resistance to prevent the head from coming off.

(2.) The "subaural knot" was merely a hangman's ignorant idea, and had no support from anatomy.

(3.) The "submental knot" and "long drop" delivers the first shock on the spine (like killing rabbits by a blow on the back of the neck), and causes immediate death without dividing the soft parts of the neck, which remain to protect the head from coming off.

After the adoption of the "submental knot" the "long drop" was reduced from twelve feet or fourteen feet to eight feet, and the results have proved that an eight-foot drop, with "submental knot," will produce a greater destruction of the transverse processes of the cervical vertebræ than a fourteen-foot drop with the "occipital knot." The transverse processes have been fractured as far down as the fourth vertebra, and death is, of course, instantaneous, and that without risk of taking off the head.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 9, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whooping-Cough.	Diphtheria and Croup.
New York	1,340,114	708	396	242	86	153	13	28
Philadelphia	927,995	388	182	86	41	57	2	7
Brooklyn	644,526	326	181	111	33	83	11	6
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	207	99	76	28	54	13	3
Baltimore	408,520	134	62	36	14	22	6	1
St. Louis	400,000	168	72	56	15	33	1	5
Cincinnati	272,400	91	29	23	15	14	—	3
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	97	45	24	12	17	2	1
Pittsburg	180,000	84	50	43	6	25	3	9
Milwaukee	142,400	89	68	42	2	32	1	1
Providence	119,405	66	37	30	3	25	—	3
New Haven	62,882	28	14	10	3	7	—	—
Nashville	54,400	15	8	5	2	4	1	—
Charleston	52,286	33	12	6	4	4	—	—
Lowell	71,447	33	16	13	3	10	—	1
Worcester	69,442	32	17	8	3	7	—	1
Fall River	62,674	37	28	16	1	16	—	—
Cambridge	60,995	23	14	13	4	8	—	4
Lawrence	45,516	19	9	7	4	4	1	—
Lynn	44,895	15	9	5	2	5	—	—
Springfield	38,090	16	6	12	1	10	—	—
Somerville	31,350	11	6	4	1	3	—	1
Holyoke	30,515	11	6	4	2	4	—	—
New Bedford	30,144	19	12	7	—	7	—	—
Salem	29,503	13	4	6	4	4	1	1
Chelsea	24,347	13	4	1	2	—	—	—
Taunton	22,693	9	4	7	—	3	—	2
Gloucester	21,400	7	2	2	—	2	—	—
Haverhill	20,905	10	5	5	1	4	—	—
Newton	19,421	10	5	2	2	2	—	—
Brockton	18,323	4	2	1	1	1	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	4	1	—	2	—	—	—
Fitchburg	13,433	4	0	—	3	—	—	—
Massachusetts towns	—	—	—	—	—	—	—	—

Deaths reported 2726 (no reports from New Orleans, Chicago, and Buffalo): under five years of age, 1412; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 903, consumption 280, lung diseases 148, diarrhœal diseases 620, diphtheria and croup 77, whooping-cough 55, typhoid fever 55, malarial fevers 31, measles 28, scarlet fever 17, cerebro-spinal meningitis 10, erysipelas six, puerperal fever three, typhus fever one. From *typhoid fever*, Philadelphia 14, New York nine, Boston, Cincinnati, and Baltimore five each, Brooklyn and Pittsburg three each, St. Louis, District of Columbia, and New Haven two each, Milwaukee, Charleston, Cambridge, Lawrence, and Taunton one each. From *malarial fevers*, New York and St. Louis 10 each, Brooklyn six, Baltimore and Providence two each, Charleston one. From *measles*, New York 19, Pittsburg three, St. Louis and Milwaukee two each, Brooklyn and Taunton one each. From *scarlet fever*, New York seven, St. Louis and Milwaukee two each, Philadelphia, Boston, District of Columbia, Lowell, Lawrence, and Haverhill one each. From *cerebro-spinal meningitis*, New York three, Milwaukee and Springfield two each, Philadelphia, New Haven, and Lowell one each. From *erysipelas*, Philadelphia three, Brooklyn, St. Louis, and District of Columbia one each. From *puerperal fever*, Philadelphia, Milwaukee, and Chelsea one each. From *typhus fever*, Cincinnati one.

One case of small-pox reported in St. Louis.

In 110 cities and towns of Massachusetts, with an estimated population of 1,376,704 (estimated population of the State 1,955,104), the total death-rate for the week was 20.44 against 19.11 and 21.54 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,620,975, for the week ending July 26th, the death-rate was 24.9. Deaths reported 4176: acute diseases of the respiratory organs (London) 159, diarrhœa 881, whooping-cough 118, measles 86, scarlet fever 77, diphtheria 30, fever 33, small-pox (London 17, Liverpool, Sunderland, Hull, and Sheffield one each) 21. The death-rates ranged from 11.1 in Brighton to 33.8 in Leicester; Birmingham 20.6; Blackburn 23.1; Bradford 16.2; Leeds 27.9; Liverpool 31.9; London 25.9; Manchester 27.8; Nottingham 26.9; Sheffield 27.3; Sunderland 24.1. In Edinburgh 18.4; Dublin 28.7; Glasgow 19.3.

For the week ending July 26th, in the Swiss towns, there were 36 deaths from diarrhœal diseases, consumption 28, typhoid fever eight, diphtheria and croup five, puerperal fever two, measles one. The death-rates were, at Geneva 17.3; Zurich 11.8; Basle 19.4; Berne 13.3.

The mereorological record for the week ending August 9th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
August, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 3	30.060	71	86	62	73	63	91	76	SW	SW	SW	5	11	7	C	F	C	—	—
Mon., 4	29.960	74	84	63	98	73	97	89	SE	S	SW	6	9	11	O	C	R	—	—
Tues., 5	29.974	72	77	69	97	83	100	93	S	SW	SW	8	10	9	O	O	R	—	—
Wed., 6	29.974	71	86	68	95	88	99	94	W	SW	SW	8	6	7	O	R	O	—	—
Thurs., 7	30.008	66	77	63	80	98	100	93	W	SW	N	5	2	15	F	R	R	—	—
Fri., 8	30.088	69	74	62	92	52	84	76	NW	SE	NW	7	8	8	O	C	C	—	—
Sat., 9	30.225	64	71	61	70	67	85	74	N	NE	N	6	12	3	C	F	F	—	—
Mean, the Week.	30.041	69.6	65.0	64.0				85.0										26.15	3.42

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM AUGUST 9, 1884, TO AUGUST 15, 1884.

BARTHOLF, J. H., captain and assistant surgeon. Relieved from duty at Vancouver Barracks, Wash. Ter., and ordered to take station at Portland, Oregon. Paragraph 1, S. O. 114, headquarters Department of Colorado, August 1, 1884.

HEIZMANN, C. L., captain and assistant surgeon. Ordered to proceed to Fort Ontario, N. Y., and report for duty. Paragraph 3, S. O. 163, headquarters Department of East, August 13, 1884.

KANE, JOHN J., captain and assistant surgeon. Granted leave of absence for one month. Paragraph 1, S. O. 160, headquarters Department of East, August 10, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING AUGUST 16, 1884.

BOGERT, E., medical inspector, to be fleet surgeon, Asiatic Squadron.

BABIN, H. J., surgeon, detached from U. S. S. Minnesota, ordered to Marine Rendezvous, N. Y.

WHITING, R., passed assistant surgeon, detached from Marine Rendezvous, N. Y., ordered to Naval Academy as member of Examining Board.

COOKE, G. H., surgeon, ordered to Naval Academy as member of Examining Board.

RIXEY, P. M., passed assistant surgeon, detached from special duty at Washington, ordered to U. S. S. Lancaster.

WOOLVERTON, T., surgeon, ordered to U. S. S. Minnesota.

DIED. — At Lexington, Mass., August 13, 1884, Abel Bryant Adams, M. D., M. M. S. S., aged seventy-three years.

BOOKS AND PAMPHLETS RECEIVED. — Fifth Annual Report of the State Board of Health of Illinois. 1883.

Streif-Lichter über die Stellung des Arztes in der Gegenwart und sein Verhältniss zur Praxis, etc. Von Dr. Med. Heinr. Schmidt. Berlin.

Twentieth Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of Training School for Nurses, etc. 1883–84. Boston.

Second Annual Announcement of the Northwestern Ohio Medical College, Toledo, Ohio. Session of 1884–85.

Transactions Mississippi State Medical Association. West Point, April, 1884.

Puerperal or Childbed Fever. By T. Griswold Comstock, A. M., M. D., St. Louis, Master in Obstetrics, Vienna. (Reprint.) 1884.

Proceedings, Addresses, and Discussions of the Third Semi-Annual Meeting of the Kentucky State Sanitary Council. Held March 26, 27, 1884.

Gun-Shot Wounds of the Small Intestines. By Charles T. Parkes, M. D. Address of the Chairman of the Section on Surgery and Anatomy, American Medical Association. Washington, May, 1884.

Lectures.

ACUTE PARENCHYMATOUS NEPHRITIS.

A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL.[1]

BY JAMES TYSON, M. D.,

One of the Physicians to the Hospital, and Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania.

GENTLEMEN, — I have the opportunity to-day of showing you a form of Bright's disease which is not often met with in adults even in the wards of a large general hospital. I refer to acute parenchymatous nephritis. This form of Bright's disease is, as you know, frequently seen in children after scarlet fever and diphtheria, and is also known as acute nephritis, acute croupous nephritis, acute tubal nephritis, and acute catarrhal or desquamative nephritis.

The patient has given us the following history: He is seventy-five years old, and was admitted on December 4, 1883, eleven days ago. He states that his father died in middle life, he thinks from intemperance. His mother died at an advanced age. He had smallpox when a boy, and at the age of twenty-one had what he says was typhus fever. He has never had syphilis or gonorrhœa. He is a gardener by occupation, but has lately worked in a stove store. Up to December 1st, he was in sound health. He recalls no dropsy or other allied symptom previous to this time. At the time mentioned, he began to have headache, pain in the back, and noticed that his scrotum was swollen. He believes that the amount of urine was increased, and he had to get up twice at night to micturate. It must be remembered, however, that this is a common symptom in old men in good health. On admission the feet, legs, abdomen, and scrotum were œdematous, and there was also œdema of the lungs. He appeared to be remarkably strong and active for the amount of dropsy present. There were no effusions into the serous cavities.

Such being the history, let us study the present condition.

The dropsy has almost entirely disappeared. This is interesting as showing the remarkable quickness with which dropsy will sometimes disappear in renal cases. This is a characteristic of some cases of acute parenchymatous nephritis as distinguished from the chronic form of the disease. In seven days the dropsy has almost entirely gone. Our attention being attracted by the symptoms which I have mentioned, the next step was, of course, the examination of the urine. This was found to present an appearance very much like the specimen which I now show you. It was of a smoky hue, and its specific gravity was high, and it contained a considerable quantity of albumen. To-day the quantity of albumen is not so large, not nearly so large as we have in many cases of acute Bright's disease or in some of the chronic forms. On standing, a deposit occurs, and on microscopical examination it is found to consist of large numbers of epithelial casts, of hyaline casts, of blood casts, and of free blood corpuscles. The smoke hue is due to the presence of the blood, which, when present in moderate quantity, always imparts such a hue to an acid urine.

It is not necessary after what I have said in previous lectures to discuss the formation of casts. I shall simply say that epithelial casts are due to a coagulable exudation from the blood, which, after it has been thrown out into the uriniferous tubules, entangles in its coagulation detached or partially loosened epithelial cells. In consequence of the inflammation in the tubules the epithelial cells are loosened from their attachment, and as the fibrinous material contracts it drops out, carrying with it the epithelium. This epithelium is not normal; it is granular, and in some cases highly so. At the same time it has not reached the stage of fatty metamorphosis. It is rather in a state of "cloudy swelling." The blood casts are formed in a similar manner. The blood escapes into the Malpighian capsules, trickles down into the tubules, and the corpuscles become attached to the fibrinous material before mentioned, or the blood itself coagulates, forming the blood cast. Hyaline casts consist of the pure fibrinous material without blood or epithelial cells attached to it. They are formed in tubules in which the epithelium is still firmly adherent to the basement membrane or is altogether absent. In health the epithelium of the kidney is very firmly attached. This is a characteristic of renal epithelium, and in this respect it differs from almost all other forms of epithelium. The epithelium of the skin of the mouth and of all portions of the genito-urinary tract, excepting the kidneys, is constantly exfoliated. It is rare to have the epithelium of the healthy kidney thrown off, and such a thing as an epithelial cast from the healthy kidney does not occur. If the fibrinous material is thrown out into a tubule, the epithelium of which is perfectly healthy, the cast will escape leaving the epithelium behind, but if the epithelium is diseased and loosely attached an epithelial cast will result in this coagulating and entangling process. A hyaline cast has less significance than other forms of casts, because it is produced by slighter derangements of circulation in the kidney. Although hyaline casts do not appear in normal urine yet they may be produced by slight congestions. The hyaline casts which occur in the acute form of the disease are of small diameter, being the diameter of the tubule less the thickness of the epithelium. In chronic Bright's disease hyaline casts of large diameter are found, being produced by the exudation of fibrinous material into tubes which are bereft of their epithelium.

These are the points on which we base our opinion: In the first place the short duration of the case. This, taken in connection with the results of the examination of the urine, — the large amount of albumen, the presence of epithelial and blood casts with free blood corpuscles, serve to establish the diagnosis. Epithelial casts in which the epithelial cells are so slightly changed are never found in the chronic forms of the disease. Blood casts are only found in acute cases. Blood corpuscles are occasionally found in chronic cases, but much more frequently in acute. In the acute stage of Bright's disease the urine is generally of high specific gravity. This is due to two causes: The urine is diminished in amount, and given a normal amount of solids the specific gravity would, of course, be high. The solids are rarely diminished during the earliest stage, but as the case progresses they decrease, and all secretion may even be suppressed. The second factor which contributes to the high specific gravity is the admixture of blood, which sometimes appears in considerable quantities.

What is acute parenchymatous nephritis? It is an

[1] Reported by William H. Morrison, M. D.

acute inflammation which starts in the uriniferous tubules, or, rather, in the cells lining them. I do not say that the process continues in the tubules during the whole course of the disease, or how long it remains there. As stated, other terms are applied to this form of Bright's disease. A good one is tubular or tubal nephritis, because it tells precisely where the disease is located. Parenchymatous nephritis is rather the favorite term to-day, and is also a proper one, as indicating the seat of the inflammation, for, as you know, the parenchyma of an organ is its proper secreting structure. Another term is desquamative nephritis, which has its reason in the fact I have already mentioned, that the epithelium is disposed to desquamate and drop out. The term simple acute nephritis is also applied to this form of renal disease. We usually make but one form of acute nephritis, and that is tubular nephritis. It may, however, occasionally happen that we have a diffuse acute nephritis, that is, an inflammation of the kidney, in which not only are the tubules affected, but the sparse connective tissue between them as well.

What are the changes which take place in the tubules in this disease? They consist primarily in overgrowth and proliferation of the epithelium, and subsequently in its death and desquamation. Before proliferating, the cells enlarge; they become cloudy and granular, and more or less encroach upon the lumen of the tubules. This encroachment is further favored by proliferation of the cells, and it may go so far as to produce suppression of urine in those cases in which the inflammation is very general. Fortunately it rarely happens that all the tubules are affected at the same time. In consequence of this proliferation of cells and blocking up of the tubules the latter occupy more space, and the entire organ is enlarged, and it is particularly the cortex which is the seat of this enlargement. Instead of being a quarter of an inch or less in width the cortex measures sometimes half an inch. The enlargement of the kidney is, therefore, dependent upon the distention of these tubules, yards of which are closely packed in the kidney. If a section is made of the organ it will be found that the cut surface drips with blood, but on scraping the cortex with a scalpel it will be seen that it does not present a red color like blood, but that it is grayish or pinkish-gray in hue. This is in part due to the fact that the blood has been squeezed from the minute capillaries by the over-distended tubules, and in part to the change which has taken place in the cells, causing them to assume a gray color, so that the acutely inflamed kidney, while it contains a great deal of blood, wants one of the classic symptoms of inflammation, that is, redness. In chronic parenchymatous nephritis the kidney is white, because most of the cells have undergone complete fatty degeneration.

If the disease lasts long enough the connective tissue becomes involved in the inflammatory process, and we then have a diffuse nephritis. This connective tissue, which is present only in small amount in health, is capable of undergoing rapid overgrowth when inflamed. Chronic parenchymatous nephritis is, strictly speaking, a diffuse nephritis, because there has been superadded to the tubular inflammation an involvement and overgrowth of the connective tissue.

Acute parenchymatous nephritis is one of the easiest diseases to diagnose if the physician understands the use of the microscope, and to make an accurate diagnosis this is absolutely necessary. I need not repeat the distinctive points I have already mentioned, but an interesting fact which I did not mention is that in nearly all cases of acute Bright's disease the urine contains crystals of uric acid.

Next, as to *treatment*. Many cases of acute Bright's disease, if recognized early, require no treatment but rest in bed and an easily assimilable diet, of which the best form is milk. Although this is true, it does not do to leave these patients unwatched, for the course of the disease is uncertain. And, as a rule, you will not rest satisfied with this treatment, although what more is done will depend to a great degree upon the urgency of the symptoms. We wish to keep the kidneys acting in order to prevent the retention of urea in the blood and the consequent danger to life which arises from this accumulation. After instituting the general treatment which I have suggested, I see that the bowels are opened, for neither digitalis or any other diuretic will act as long as the bowels are constipated. If there is costiveness, some saline laxative, as magnesia or the citrate of magnesia or some of the natural aperient waters, should be given. After the bowels have been opened, digitalis may be given either in the form of the tincture or infusion, giving fifteen drops of the former, or a dessert-spoonful of the latter, every three or four hours. If this does not produce the desired effect, I should not increase the dose of digitalis, for it is liable to derange the stomach, but I should associate with it one of the vegetable alkalies, as the acetate or the citrate of potassium.

When admitted this man was given one tenth of a grain of elaterium to act upon the bowels, and afterwards received fifteen grains of acetate of potassium and a teaspoonful of the infusion of digitalis every three hours, making four or five doses in the course of the day. Under this treatment he did very well and the œdema rapidly disappeared.

If the treatment which I have suggested does not produce satisfactory results and the symptoms grow worse, I sometimes use cups over the loins, relieving the renal arteries through the lumbar arteries, by the anastomosis which exists between them. After the cupping, I usually apply a corn-meal or flaxseed-meal poultice, the surface of which has been sprinkled with mustard. This keeps up a permanent counter-irritation, and it often starts the secretion of urine.

If these measures fail, free action by the skin should be promoted. This is best accomplished by jaborandi, and in this case it became necessary to administer this remedy. As I have said, the patient at first did well on the use of digitalis and the acetate of potassium, but day before yesterday the resident physician found him delirious and acting in a very singular manner. On investigation it was found that although the urine was not actually suppressed he was passing a very small amount. We at once concluded that his symptoms were uræmic and due to the retention of urea and its allies. This complication is frequently met with: a patient will be doing well, when suddenly there will appear coma, convulsions, or delirium as we had in this patient. In addition to delirium the man had slight convulsive seizures. We at once proceeded to treat him as we usually treat such cases in the hospital. An infusion of two drachms of jaborandi leaves in four ounces of water was made, and the whole quantity given by enema. We often make the infusion

with only one drachm of jaborandi, but as the symptoms were urgent a double quantity was used. This did not produce perspiration, and in an hour the injection was repeated. In a short time he sweat profusely. He was also given one drop of croton oil, which acted promptly. The next morning all the symptoms had disappeared and the man was entirely rational. We are not always so successful in removing the uræmic symptoms, but frequently the result is all that could be desired. In this case the dropsy was also greatly relieved by the sweating.

The above well illustrates the usual course which is to be pursued in cases of acute Bright's disease. If the disease is promptly recognized and properly treated from the beginning, the patient generally gets well, but if overlooked, as it often is, the opportune moment may be lost never to be regained. Perhaps no disease demands for its prompt recognition and treatment a broader and more thorough medical education.

There are modifications of the treatment I have described which are demanded by circumstances. In private practice, instead of giving jaborandi I should use the alkaloid, pilocarpin, giving the nitrate or muriate subcutaneously. The dose is from one fourth to one half a grain as the urgency of the symptoms may demand. My usual custom is to give one fourth or one third of a grain, and if sweating does not come on within half an hour I repeat the dose. Jaborandi not only produces sweating, but it also increases the secretion of saliva and may induce purging. It is also a diuretic. We have in this remedy a most valuable addition to the therapeutics of Bright's disease. In order to keep up the diaphoretic action pilocarpin may be continued in doses of one tenth of a grain. This is readily done by the use of gelatine coated pills. One pill may be given in the evening, or one may be given night and morning. The system rapidly becomes habituated to the use of jaborandi and the dose has to be increased. Another good way of administering this drug is to use the inspissated juice by suppository. The fluid extract may of course be used by the mouth, but it is a less agreeable remedy.

If jaborandi cannot be procured, there are other ways of inducing sweating which we have now almost entirely given up, although they are very efficient. Hot-air or steam baths may be used for this purpose. In employing the hot-air bath the patient is covered with a rubber blanket, and a tube with an expanded extremity which is held over a spirit lamp is passed beneath the covering. In the steam bath the steam from an ordinary tea-kettle may be conducted through a piece of rubber tubing under the bed clothing. These methods are not as promptly effectual as the administration of jaborandi, but at the same time there are circumstances when they may be required.

There is another method of treating urgent uræmic symptoms which should be mentioned, that is, bleeding. I should not hesitate to bleed a patient suffering with uræmia if he is not relieved by the measures described. As you are aware the uræmic symptoms are dependent upon the retention of urea and allied substances in the blood, which when they have accumulated to a sufficient quantity, act upon the nervous system, producing delirium and convulsions, or coma. The condition is, in fact, an intoxication. If under such circumstances the patient is bled and a pint or a quart of this blood removed, some of the poisonous material is taken away and the patient is relieved. In puerperal cases I believe that bleeding relieves not only by diminishing the vascular and nervous tension, but by removing the accumulated uræmic poison which has produced the symptoms.

Another valuable remedy for the control of uræmic convulsions, which should not be forgotten, is chloral. So far as the relief of the convulsions go, jaborandi is a slowly acting remedy, because it operates by removing the poison from the blood. Something is needed to act upon the nerve centres and obtund them and make them less susceptible to the poisonous substance. Chloral often admirably answers this purpose. It may be given by the mouth or rectum. By enema the dose is one drachm. I have seen the convulsions stop almost instantly after such an injection.

There is still another remedy which has been strongly urged by some, which should be used with caution, and that is morphia. It is some years now since Dr. Loomis, of New York city, advocated the hypodermic administration of one half a grain of morphia for the relief of the convulsions in acute Bright's disease. There is no doubt that in certain chronic forms of the disease, more particularly in the contracted kidney, the effect of opium is to increase the danger of uræmia; and Dr. Loomis states explicitly that this treatment is only applicable to the acute disease. I confess to being less particular in the use of opium in chronic Bright's disease than I used to be, always excepting contracted kidney, and where other remedies fail I would use a hypodermic injection of morphia in the uræmic convulsions of Bright's disease, but I should arrange the order of remedies rather as follows: jaborandi, chloral, bleeding, morphia.

With such measures these cases can often be brought to a satisfactory termination; and although the appearance of uræmia is a serious sign, yet it does not necessarily follow that the patient will die, and recovery therefrom in acute cases is not uncommon. Uræmic convulsions in chronic Bright's disease is a far more serious condition.

Original Articles.

A CASE OF MULTIPLE CALCULI IN THE BLADDER.

BY A. T. CABOT, M. D.

This case owes its interest mainly to the character of the calculi removed, and the clinical history is therefore given but briefly. It is as follows: —

S. R. U., aged sixty-five, entered the Massachusetts General Hospital May 4, 1883, with the following history: The patient has had some difficulty in passing water since 1875. In the year 1880 he began to suffer from frequent micturition, with pain before and during the act. He has sometimes since then had a sudden stoppage when passing a full stream. Riding causes pain.

At present he cannot pass water without the aid of a catheter, and examination shows the prostate to be decidedly enlarged. On the day of entrance Dr. Bigelow examined him under ether, and, finding a stone, proceeded to crush and pump it out. The stone was soft, and broke readily. The lithotrite was introduced but twice. The fragments removed weighed ninety-six grains after they were dry.

On the following day the patient was comfortable, had had no rise of temperature, and was allowed to go home.

Twelve days after he left the hospital I saw Mr. U. by Dr. Bigelow's request. He was troubled at this time with considerable pain in the bladder and rectum. This was worst when the bladder was full and just after emptying it. The urine was extremely foul, and contained a considerable amount of pus. It was drawn with a soft rubber catheter once in four hours. The existence of large inflamed piles made it doubtful how much of the pain was due to the bladder. Thorough irrigation of the bladder improved the character of the water and somewhat mitigated the pain.

In July Mr. U. again entered the hospital, and I removed the hæmorrhoids, which had proved very annoying, with the actual cautery. During this stay in the hospital the irrigation was thoroughly carried out, with the result of a great improvement in the character of the urine.

July 24th he returned home, the pain having almost disappeared. Although he continued the irrigation, at which he was now quite expert, still the pain soon began to return, and assumed a peculiarly sharp character, which he described as like the pricking of pins, and referred to the penis and rectum. A passage of fæces or wind from the bowels greatly aggravated this pain. The urine now became gradually more purulent, and the pus assumed a thick, ropy consistency.

In September I sounded him carefully, without ether, and although I thought for one moment that I got a slight grating sensation, yet with the greatest perseverance I was unable to reproduce it.

In November the catheter drew out for the first time a little calculus about the size of a canary seed, and now almost every use of the catheter produced one or two of these little stones.

Lithotripsy was at once advised, and Dr. Bigelow kindly lent his apparatus for this operation.

November 17th, I operated with the assistance of Dr. Post and Mr. Reynolds. The urethra was quite capacious, and with a No. 28 French straight tube a large number of small and moderate sized calculi were quickly pumped out. There being a constant clicking of larger stones unable to pass through the tube, a small lithotrite was introduced, and several stones were seized and crushed, the largest measuring about three quarters of an inch in diameter. After this débris was removed, one calculus of the size of a large bean persistently eluded the lithotrite, but finally caught in the eye of a No. 31 French tube, and was drawn out. The bladder was then found to be clear.

The patient had no rise of temperature after this operation, and the pain which had been so annoying entirely disappeared. The urine quickly cleared up, a few minute calculi subsequently passing with the water, and complete health was regained, with the exception of the fact that the obstruction in the prostate continued to require the constant use of a catheter.

The calculi removed at this last operation present peculiarities of shape which are quite singular, and which I will try to describe. They are about two hundred and twenty in number, and weigh two hundred and seventy grains. In size they vary from that of a mustard seed to one having a diameter of three fourths of an inch. The smallest are of a regular oval or rounded shape, but all of them that have acquired the size of a large grain of wheat or upwards have a little sharp spine or projection upon one side. This appearance can best be shown upon those calculi which have attained the size of a large bean. Those figured, chosen at random, present pretty well the characteristics of all. They are oval, flattened in shape, and the spines



are situated near the middle of one of the flat sides. Occasionally the spine is upon the edge of a stone, and more rarely there are two or more spines upon one of the sides. A careful search among the whole number of calculi shows but one instance in which spines occur upon both sides of a stone. In a few cases, instead of a spine, a delicate ridge is seen running the whole length of one of the flat sides. The smaller calculi are brown in color, while the larger ones are covered with a whitish layer.

A section through several of the larger stones shows them to be made up of a dark nucleus exactly comparable in size and color with the smaller stones. Outside of this is a crust somewhat lighter in color than the nucleus, and this is covered on the surface more or less completely by the thick whitish layer already described. The line of section being carried, in one or two instances, directly through the spine, it is seen that the outer crust is much thicker on that side than on the other, and that the spine itself is formed almost wholly of this outer crust, although the darker nucleus sometimes sends a slight projection into it.

An analysis, kindly made by Prof. E. S. Wood, shows the inner, darker portion to be composed almost exclusively of calcic phosphate, with a little calcic carbonate, and a trace of triple phosphate, while the outer crust consists chiefly of calcic phosphate, with considerable calcic carbonate, triple phosphate, and ammonic urate.

Professor Wood pointed out the fact that there is generally a somewhat polished look, with indistinctly marked facets upon the spinous side of each of the larger calculi. Upon these facets the darker portion of the calculus shows through the thin, whitish layer which covers the rest of the surface. Many of the smaller stones are also seen by close examination to be indistinctly faceted.

The presence of these spines on a number of the calculi would of itself be a curious fact, and would suggest a special method of formation, but they acquire a much greater interest when it is considered that every calculus which has attained a moderate size is provided with one or more of them. In short, that all of the larger calculi have been exposed to some influence which has compelled them, almost without exception, to assume this peculiar form. The explanation of this is not easy.

The theory advanced by Professor Wood seems more plausible than any other which has been suggested or has occurred to me. His supposition is that the calculi lay in some part of the bladder where they were not much stirred about, possibly in a sac or pocket, and that they were enveloped in mucus which held them in a pretty constant relative position. Under these circumstances the fermentation and consequent deposition of salts would go on very actively in this stagnant mass, and the spines would be accounted for by the projection of parts of certain calculi into

the interstices of the mass and the rapid deposition of salts upon these portions.

The facets about the spines would be caused by the friction of the calculi between which the spines projected. The occasional appearance of a ridge with facets on each side of it strengthens this view.

The points which at first sight are not sufficiently explained by this theory are: *firstly*, the fact that each and every one of the larger calculi possesses a spine; *secondly*, that this spine is almost invariably situated at or near the middle of one of its flat sides; and, *thirdly*, that in but one instance are there spines upon opposite sides of a stone. This latter seems an almost insuperable objection, for it would naturally appear that the calculus lying in the midst of the mass would possess spines projecting in various directions into the interstices about it.

These inconsistencies are explained, however, if we consider that the smaller calculi which are found to be evenly rounded or faceted on several sides occupied the centre and lower part of this mass, and that the larger calculi lay upon the surface.

That the mass of calculi does tend to take on this arrangement can be demonstrated by gently turning them about for some time in a bag or bottle.

If we once accept the probability that the calculi were thus arranged in the bladder, it can be readily understood that each of the larger calculi lying upon the surface would have one or more spines or ridges projecting into the interstices of the underlying mass, and these spines would naturally occur on one of the flat sides upon which the calculus would necessarily rest.

That the spines do not occur on opposite sides of any of the calculi shows that there was so little motion among them (owing largely, no doubt, to the enveloping mucus) that they did not often turn over and present what had been the free side to the action of the mass of other calculi.

The greater thickness of the outer crust on the spinous side as compared with the smoother side, which was exposed to the action of the urine and friction of the bladder wall, shows the greater rapidity of deposition upon the side buried in the stagnant mass, and is one of the many bits of confirmatory evidence which go to support the explanation which I have endeavored to give of this most singular phenomenon.

While this paper was awaiting publication, Mr. U., after four or five months of perfect ease, had a recurrence of his cystitis and a return of pain which caused him again to apply for advice. A sound revealing the presence of a stone, he was etherized July 24, 1884, and one hundred and twenty-seven grains of calculous matter were removed. The greater part of this was contained in a soft phosphatic stone about the size of a hickory nut.

There were, besides, about a dozen calculi, each of the size of a bean, and resembling in consistency those removed at the previous operation, but differing from them in the absence of the regular projections. One or two of them only posseesed little protuberances, distributed irregularly over their surface and of insignificant size.

Their small number, making mutual attrition less close, prevented, no doubt, the molding which shaped their predecessors.

THE ADVANTAGES OF MASSAGE IN RHEUMATIC GOUT.[1]

BY DOUGLAS GRAHAM, M. D., BOSTON, MASS.

"I' ll knead him; I 'll make him supple." — SHAKESPEARE.

RHEUMATIC gout, rheumatoid arthritis, or arthritis deformans is too familiar to us all to need any lengthened description. We readily distinguish it in most cases by its slow and progressive character; by its chronic or subacute course with frequent exacerbations and remissions; by its spreading symmetrically from the small joints to the larger, usually in the upper extremities first; by the thickening, permanent enlargement and often deformity it occasions; by its never affecting the heart and not being hereditary; and by its attacking females oftener than males. The term rheumatism is often used to cover a multitude of diseases, as charity is to cover a multitude of sins, and when rheumatism assumes a chronic form after an acute attack it may be impossible to see any difference between this and rheumatic gout. Recent views regard arthritis deformans and kindred disorders as possibly of nervous origin. This might seem to be the case when the malady begins with a quiet pulse and clean tongue, and when the patient complains of languor, loss of appetite, pain and stiffness in the joints, and perversion of nutrition. But as to causation, the ground may be easily covered by saying that whatever deteriorates the system, whether by mind or body, in those predisposed to this or any other disease, may, and probably will, precipitate its onset.

It is to be regretted that our success in the treatment of this obstinate affection is not equal to our knowledge of its pathology. An ounce of relief or an extra inch of motion is worth infinitely more to patients and physicians than a foolscap of such information as that the disease is a panarthritis involving cartilage, bone, and synovial membrane; ligaments, tendons, and bursæ, with thickening of the bones and thinning of the cartilages. With strange inconsistence Professor Senator, of Berlin, in his treatise on Diseases of the Locomotive Organs, describes this malady as usually selecting joints which are most continuously and severely overtasked by sewing, knitting, watchmaking, and the like, while on another page he tells us that the thumb is generally spared and remains freely movable. For such a description he may be credited for drawing upon his imagination rather than from observation. I am sure we all know that the freedom of motion is longest preserved in those fingers which are used the most: first, in the index, second in the middle finger, while the thumb shows greater signs of being affected, and the ring and little fingers are generally worst of all. Moreover, Senator's description is again at variance with the only remedial course, of which he speaks in unequivocal terms by saying: "It is important in all the forms of this disease to maintain the functional activity of the affected joints as far as possible by means of active and passive movements. Absolute rest promotes stiffness of the joints, fixes the limbs, and atrophies the muscles." If his first statement were correct, then the treatment he so strongly recommends would be veritable homœopathy: disease produced by motion relieved by motion. But unfortunately this is not so, at least with

[1] Prepared for the Section of Practice of Medicine of the American Medical Association.

regard to dosage, for in using massage and passive motion in these cases long and frequent visits and arduous work are necessary; but in my experience they amply repay both patient and physician for time and trouble expended. Led on by gradual improvement from the use of massage in five out of six cases of well-marked rheumatic gout, I kept up this treatment until unlooked for results were obtained, so that four of these cases regained tolerable use of the affected limbs, and in one recovery seemed to take place.

Berghman and Helleday report three cases, Cronfeld one case, and Balfum, of Edinburgh, two cases of rheumatic gout treated by massage and movements with results similar to those I have obtained, and only one of them had a disappointing relapse. The mode of procedure in my cases was deep manipulation without friction or inunction, passive motion, as far as pain would allow and sometimes farther, and resistive motion as soon as it could be done, the details of which I have described more fully elsewhere. If pain disappears soon after it is caused by any of these operations it may be disregarded; if it lasts for several hours and increases after subsequent efforts, they must be suspended. Kneading with one hand so as to break up indurations or disperse effusions, while the other hand pushes along the circulation in the veins and lymphatics above the joint, is often a good procedure, and quickly leads to the absorption of products not too firmly organized. Blisters and powerful derivatives in the neighborhood of joints affected with rheumatoid arthritis are considered more likely to promote than to retard the affection, according to the studies of Senator. Massage of the adjacent skin and muscles acts as a physiological derivative and raises nutrition to a high degree by a rapid interchange of materials, owing to the force and speed of the circulation being increased and obstructed lymphatics and capillaries made permeable. In this manner the soft structures may be made to adapt themselves to nodosities and deformities that cannot be removed.

When the disease is very active, or the muscles fattily degenerated, the tendons frayed out and thinned and loose cartilages in the articular folds of the fibrous membrane, or when bony anchylosis has taken place we should not expect anything from massage.

All of my cases had been well nigh rubbed to death in the ordinary way, besides having exhausted the resources of the materia medica, baths, and mineral springs of all kinds, electricity, etc., before coming to me for massage.

CASE I. Miss A. was sent to me by Professor Da Costa, of Philadelphia, in 1873. She was then seventy-eight years of age, and had been bedridden for eight months with rheumatic gout. The disease had affected every joint of her limbs and apparently had run its course and done its worst. There was eburnation of the articular surfaces and rattling of the bones, with distortions of almost every joint. There was neither anchylosis nor contracture, but only slight indolent thickening around the joints with great muscular weakness. The patient was nervous and depressed. Pulse 92, and dicrotic. After one application of massage she could put her arms under the bed clothes and pull them up around her neck. Four days afterwards, having had daily massage, she could reach back so far as to get an object behind the pillow on which her head rested, sleep was better, and she was greatly soothed by the manipulation. In seven days her pulse was down to 79, and steadier, and she walked across the room half supported. The following day she fed herself for the first time since her illness. In three weeks she could walk twice the length of her room with slight support. It seemed cruel to ask this patient to walk, so badly were her ankles deformed. But there was no pain; the sensitive structures of the joints were probably destroyed. This patient had massage twenty-three times in one month, and the use of her limbs and general condition were greatly improved. I fancy there may have been times during her illness when massage would not have been of much use to her. She was the most delicate of a family of six, having suffered from pleurisy, pneumonia, hæmorrhages from the lungs, etc., and she outlived them all.

CASE II. Mr. S., about fifty years of age, was sent to me by Dr. Thomas G. Morton, who had clearly explained to him the nature of his affection and told him that benefit might result from a long course of massage. For a year the patient had suffered from periarticular thickening of the finger and wrist-joints of a semi-solid nature, less of the elbows, ankles, and knees, in all of which places there were frequent but not severe attacks of pain of a non-inflammatory character. His general health had greatly deteriorated, sleep was poor, appetite small, and he had lost flesh, but still he could go out every day and attend to some business. Daily massage was used for a while, afterwards every other day. Improvement was slow and almost imperceptible. At the end of ten weeks the periarticular indurations had decreased, the joints were more comfortable and more flexible, sleep and appetite had improved, and the patient had gained flesh. At the end of four months massage was discontinued, the patient being to all intents and purposes well, having regained his natural sleep and appetite and increased in weight to a marked degree. The circumference of his wrists with the improved nutrition being the same as when the induration was present. There was still slight enlargement of some of the phalangeal joints, but the patient could shut his hands firmly, whereas at first they could only be semi-flexed. He said if he thought he could have been cured in this way he would not have sold his house and business with the expectation of going to Europe to seek for relief.

CASE III. Mrs. A. G., thirty years of age, enjoyed good health until she was nineteen years old, when rheumatic gout appeared first by swelling and pain in the last joint of the left thumb, and soon the other joints of both hands and fingers were similarly affected. Four months later the ankles became swollen. Then there was a respite for a year, and at the end of this time there was another exacerbation for five weeks. Six months later it was apparent that the hands and feet were "growing out of shape." About this time she became pregnant, and the disease was in abeyance during this state, but after the child was born the joints were generally affected as before. Again there was a year of improvement, followed by grief and taking cold, which caused a relapse, and in 1877 she walked with great difficulty. Then iodide of potash, arsenic, a sojourn at Caledonia Springs, and electricity were tried, but the patient grew worse. In the summer of 1881 Dr. Goodrich, of Bakersfield, Vt., rubbed the knee joints very hard and hurt the patient a good deal, but she improved so that she could walk with a cane and go up and down

stairs, though the legs were greatly bent. She relapsed again in a few weeks.

This patient came to me in February, 1882, with knees flexed to almost a right angle. There was slight effusion in them, and dry creaking on motion. There was thickening around the ankle-joints, though the motion was free and strong. Hip-joints not affected. The ring and little fingers of both hands were hopelessly deformed, the first row of phalanges being extended far back, the second and third sharply flexed and anchylosed. The thumbs, fore, and middle fingers were somewhat out of shape, but remarkably good use of them was retained. The left wrist was strongly flexed, the elbows and shoulders comparatively free, though they had been severely affected. The patient was bright and cheerful, and looked healthy, notwithstanding that she was suffering from a general bronchitis and weighed but eighty-two pounds. Her appetite was fair and bowels constipated. A tonic pill to increase the appetite and regulate the bowels was given, and general massage used daily. Her joints were not very sensitive, and from the first the massage was agreeable; the aches and pains disappeared in too remarkable a manner for me to ask anybody to believe. In three weeks she was eating very heartily, and taking five goblets of milk daily, and was free from discomfort; and after vigorous extension of the knees, which hurt at the time, they felt better all day, and we had gained one and one fourth inch extension at the ankle. In two months the menses, which had been absent for eighteen months, returned, and they have continued to return ever since with greater regularity than they ever did before. In three months nutrition had improved to a marked degree. At the end of this time, the patient having been in preparation by a variety of impromptu gradual extension apparatus, I put on each leg long lever splints, which made extension from the heel, and pried down the knees by means of wide bandages above them on the anterior aspect of the thighs, while the short arms of the lever rested on the back of the thighs.[1] These were kept on night and day for twelve days, and during the last seven days of their use the limbs made daily extension. After they had been on for twenty-four hours the patient liked them, and later, when temporarily removed, she felt faint for want of their support. They were then removed for eleven days, and light splints applied, and with these the patient stood up. After six days more of the long splints the legs were about as straight as people's usually are in use. By this time the joints had become sore, and the patient was not sleeping well. Two weeks later the patient walked twice across the room, pushing a chair before her to balance herself; ten days later she did this twenty-two times, and in ten days more she walked without anything for support except light wire ham splints. Four weeks later she was going up and down stairs alone, and two weeks after this she frequently took a walk of half a mile with the aid of an arm and her ham splints. It was then six months from the time treatment was begun, massage having been kept up all this time. At the end of seven months and a half the patient returned to her home, wearing the usual supports for weak knees, but unfortunately when these were unfastened there was not much bend to the legs. This, however, has improved by the patient's efforts. It is now eighteen months since the patient went home, and she has continued to gain in every respect without treatment. The flexed wrist and movable finger joints made good progress under massage.

[1] I first saw this used by Dr. E. H. Bradford.

While I was attending this patient there came to me a report of a somewhat similar case treated in like manner with better results than could have been anticipated, and this inspired us with hope and perseverance.

CASE IV. Dr. Carl Gussenbauer, Professor of Surgery at Prague, gave the massage himself in this case. The patient was a lady, forty years of age, who had suffered from rheumatoid arthritis for twenty-two years. The trouble began in one elbow, and later affected the finger-joints. Rest and local applications were without effect. In the following years all the joints of the body were attacked. During two pregnancies no new joints became affected, and those that had been were more endurable. The malady progressed in spite of medication baths, mineral springs, electricity, etc. The patient had not walked any for eight years. Pains by day and night disturbed her rest, and she had become thin, anæmic, and constipated. The heart's action was irregular, and there were attacks of syncope at times. In this condition Professor Gussenbauer undertook massage with great misgivings. He not only applied massage to the joints, but to the whole body: to the joints for the painful swellings that affected both upper and lower extremities, as well as some of the dorsal and lumbar vertebræ; to the whole body to favor the nutrition of the atrophied muscles. There was but a small range of motion in any of the joints of the limbs, owing to adhesions in them and in the sheaths of the tendons, producing the characteristic contracture, and these he hoped to gradually overcome by passive motion. The deformity of the articular extremities of the bones, of course, could not be removed. He *massëed* the patient daily, and gave her passive and active motion, and after fourteen days he had the pleasure of seeing the swollen joints decreased in size and their motion improved and less painful. At the end of a month the patient could walk about her room with a cane, and the improvement was so great that recovery seemed possible. For the next four months the patient was *massëed* by his assistant, Dr. Schmid. The result was that the pains and swellings of the joints and capsules all disappeared, and they became movable to almost a maximal extent except that of one elbow, which had undergone bony anchylosis. The muscular strength of the patient had increased so that it often tired out the operator to give her the active or resistive movements. She could walk in her garden for fifteen minutes without fatigue. Nutrition improved more and more, the anæmia disappeared, the pulse became regular, and menstruation returned, unaccompanied by fits of prostration, as formerly. *Tapotement*, or percussion with the ulnar border of the hand, with the palm, and with the fist, was freely used in this case.

In several cases of chronic articular rheumatism Professor Gussenbauer reports favorable results from massage.

CASE V. While some patients become thin under rheumatoid arthritis others grow fat. This was the case with Mrs. J. L., fifty-eight years of age, who had suffered with the disease for fifteen years. In seven months under massage she regained free and natural use of her limbs, which she retained until a short time before her death. For the first two years her joints gave her but little trouble, but at the end of this time she was

confined to her bed five months with arms so stiff and painful that when they were out of the bed clothes she could not put them in again alone. Later the trouble left the arms and appeared in other places, but never in the toes. Her history is one of pains and stiffness of joints and muscles, with occasional remissions, the disease all the time slowly progressing. Her condition had been made much more comfortable by alkalies and laxatives prescribed by her physician, Dr. J. P. Oliver, who kindly referred her to me for massage. Previous to her malady she had been very thin and active, but for the last ten years of her illness she had grown very fat and heavy. For the last year her mode of locomotion indoors had been by means of a wheel-chair, and it was with difficulty she could be got in and out of a carriage. On each side of the patella it was evident through the layers of adipose tissue that the capsules of the knee-joints were thickened, and it was to these places the pain of extension was referred, and this was limited to about three fifths its normal range. Flexion was natural, and dry crepitus could be heard and felt on motion. Massage and movements every other day, with the use of curved ham splints, and later straight ones, produced good results. In five weeks she was walking about the house with a crutch and cane, and the legs could be straightened so that the popliteal spaces would touch an applied straight ham splint, and free motion was gained to this extent. The splints proved a support and comfort in walking, and were worn for several weeks longer to overcome the tendency of the posterior femoral muscles to shorten. At the end of three months the patient could walk the length of a room and back again without support of any kind, after getting started by assistance for a few steps. She had then lost the pain in the joints that troubled her by night, and pulling the legs no longer hurt the knees as formerly. When the knees ached, walking relieved them. The indurations and thickening were disappearing, and a hard, painful spot behind the left hip had entirely gone, and the patient could turn easily in bed. In six months the patient walked easily and gracefully without crutch or cane or splint. A month later she got up from her chair alone, and walked as well as any one of her weight could be expected to do, and this improvement continued for six months longer, until an affection of a different kind supervened and suddenly carried her off. I need not say how sorry I was to lose this patient, who did me as much credit as any I ever had. The beneficial change in the knees was an indication of what had taken place in the other joints, in the fingers, wrists, and elbows, thinning of indurations, and increase of motion.

CASE VI. Miss E. P., forty-five years of age, at the change of life, well nourished, and a picture of health, has suffered from rheumatic gout and its variations for five years. During its early appearance, while crossing the Atlantic and returning, all the symptoms disappeared only to return as soon as she landed. Two years after the disease began she was seized with severe gastric disturbance for several months, and during the worst of this the joints were remarkably well. With the disappearance of the stomach trouble the mischief in the joints returned. The patient had derived, and still continues to derive, marked benefit from forty to eighty grains of salicylic acid, given in divided doses during the day with bicarbonate of soda and carbonate of ammonia. This was prescribed by her physician, Dr. Lucy E. Sewall, who kindly referred her to me for massage. As the patient was improving I could see no need of adding this treatment, for cauterization of the knees was having a good effect, and making them feel better all day afterwards. It was agreed, however, to try massage on the worst limb, the right leg. There was a mass of feebly-organized, indolent tissue in front of the condyles, which was easily dispersed, and its absorption hastened by massage, even the first sitting producing a marked effect, so that the adherent skin became free, and the hyperplastic tissue softer. At the end of a week, with daily massage, this semi-indurated tissue had almost entirely disappeared, and the feeling as if the joint were held by an iron band in front of it had correspondingly lessened; the patient could stand more easily, and push the limb against resistance more vigorously; the œdema of the leg and swelling of the ankle, which were partly controlled by a bandage, had also improved. During the first three weeks daily gain was perceptible, and at the end of this time her physician asked me to apply the same treatment to the other leg, which had not been getting along so rapidly under cauterization as the worse one had been under massage. After this they improved *pari passu*. A splint was worn for twenty hours every other day on the right leg, and this was well tolerated, and soon overcame a tendency to bending of the knee. The hands and arms made progress, and in two weeks she could use them more freely, and write more easily. At the end of thirty-nine days, having had daily massage, the patient took a ride, getting in and out of the carriage with an ease that surprised herself. Three weeks before this she could scarcely take a step, and for a year she had not been able to walk in any way worth mentioning. Massage was then used every other evening, and she always slept well after it, but not when it was omitted. Manipulation made her lame and sore for several hours afterwards, only felt, however, on motion. She continued to gain under massage until she went to the country, two months from the time it was begun. She improved for three months while in the country, but on her return to the city she rather lost ground, which massage scarcely made up for. After two months more of this treatment it was suspended for two weeks, and during this interval she suffered from general stiffness, wakefulness, and fullness in the head, all of which disappeared promptly on resuming massage. And now, in spring time, with the most unfavorable weather, and arduous professional duties, the patient is again improving. She has good use of her arms, and the thickening of the knee-joint capsules is decreasing, and she walks pretty well with very little assistance.

CASE VII. Mrs. C. J., fifty-two years of age, has had rheumatoid arthritis for eight years, which has pursued a relentless course in spite of twenty-three physicians and all sorts of treatment. The joints of her hips and back are the only places free from the disease, which at present is pursuing its ravages in all the joints of the upper extremities, having for the present got through with the lower ones. Her general health is good, but before this trouble she was delicate and dyspeptic. Massage every other day for six weeks, though removing the peri-articular swellings and thickenings, and extending the knee-joints a little, which are almost bent at a right angle, has had no other apparent effect except to make the joints lame

and sore, and the patient tired. The upper extremities are almost anchylosed, and resent passive motion. The patient perceives no improvement from the massage. This is the most discouraging case I have yet encountered. After the disease has spent itself on the upper extremities there will probably be a chance for massage to do some good.

By means such as we have been considering, Fuller, of London, has told us that when the contracted tendons seem almost to require the surgeon's knife for their relief operative interference will often be rendered needless. In one case, by persevering for nine months, he straightened a leg that had been flexed for four and a half years. Indications for encouragement he clearly expresses in these words: "When, as is usually the case, the contraction depends upon simple gluing together of the structures external to the joint, with thickening of the capsule, and, possibly, some remains of effusion within the cavity, or into the bursæ external to the joint, I see no reason for despair as to straightening the limb, however long contraction may have existed."

CASE VIII. Rheumatoid arthritis of a single joint, resulting from injury, is recognized. I do not think I have seen more than one case that would agree with this. The knee-joint had been injured ten years before, and there was thickening, grating, slight deformity and shortening, but free motion, though walking was exceedingly limited on account of pain, weakness, and the weight of the patient. She had been rubbed an hour a day for a year by a very nice person, with the result of always being tired after the procedure, and getting no better. Twenty minutes' massage with carefully increasing resistive movements every other day, for two weeks, improved her walking to an enjoyable extent. The induration was lessened, and the comfort of the joint increased.

No description of the effects of massage in rheumatic gout would be complete without reference to the case of old Admiral Henry. In 1810 he was seventy-nine years of age, and had suffered from this affliction for twenty-eight years. There were swellings of his knees, ankles, and insteps, which made him quite a cripple, and his fingers were also swollen and contracted. His stomach and bowels were hard, painful, and disordered. By means of various instruments made of bone polished smooth and hammers covered with cork and leather he persevered in the use of deep friction and percussion, night and morning, for three years. At the end of this time, it is said, he had completely succeeded in removing the swellings, and had restored himself to the use of his limbs. His operations were at first painful, but ceased to be so after a little while, and soon they became so pleasant and useful that after having gone through with them in the morning he felt better all day. At the age of ninety-one he wrote to a friend: "I never was better, and at present am likely to continue so. I step up and down stairs with an ease that surprises myself. My digestion is excellent, and every food agrees with me. I can walk three miles without stopping." This was in 1823, and he may be alive yet for anything I know.

The Admiral's pathology and therapeutics are of interest. He considered the chief cause of disease to be deficiency of circulation, and the best means of correcting this to prevent the nerves and muscles from falling asleep and getting fixed, for which purpose they should be kept loose by instruments worked among them. "By keeping the blood-vessels, nerves, and tendons in constant action by means of these instruments the blood is rendered pure: it passes quickly through the blood-vessels, leaving no *fur* behind it, so that ossification and stiffness are prevented." This quaint remark about the blood leaving no fur behind it is a noteworthy illustration of how a layman may express himself better than he is aware of, or, in common language, "hit the nail on the head." This fur of old Admiral Henry corresponds to what we know of the white blood corpuscles which move along so slowly in the circulation, having a tendency to adhere to the walls of the vessels, and which, when the current is retarded, as in points of inflammation, congregate in vast numbers, and often migrate into the extravascular tissues, thence to be resorbed or become the foci of pathological changes.

MENSTRUATION IN WOMAN AND ANIMALS.

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THE great obscurity which still surrounds the process of menstruation makes it desirable for us to use in the study of it every legitimate means, and it may be that a little wider view of the process may be gained by a study of the function as it exists in the lower animals.

In general there is in plants and animals at the season of reproduction a more or less marked manifestation of increased activity. In plants the analogy might be a trifle strained perhaps, yet their flowering season is of course their season of reproduction. We can hardly expect much analogy to menstruation in animals below the mammalia, but there are the foreshadowings of a periodical sexual activity very low in the scale. Birds, fishes, and reptiles have no uterus, although having of course the genital tracts from which the uterus is later developed. In birds "many acquire bright colors and other decorations in the breeding season alone," and "certain ornamental appendages become enlarged, turgid, and brightly colored during the act of courtship." (Darwin.) At the time of the oviposit fishes show a genital excitement, according to Guersant, their sexual orifice swelling and being clothed with a red tint. In the amphibia the oviducts become lengthened and consequently more coiled at the breeding season. Several lizards secrete especially at the coupling season an odorous, fatty liquid from glands at the inside of the thigh. Snakes also show an increased activity of the anal scent glands in the breeding season. But we must go higher in the scale.

In the mammalia, so far as known, every animal is subject to periods of heat. During this time alone will the female admit the male (with the exception of monkeys), and of course at this time only can conception occur. The time of this rut is determined by the surrounding condition of food and climate, so that the young shall be brought forth at the season of the year most favorable to their growth and early sustenance. Among wild animals, as a rule, conception takes place, pregnancy follows, parturition and lactation are accomplished, and at the next suitable season the rut returns to be again gratified. Wild animals are in heat only once or twice a year. When from the absence of the male or any other reason conception does not take place at this time, it is not known in the case of wild

animals whether the heat returns sooner than it would otherwise have done, but in most of the domesticated animals it returns much sooner than if pregnancy had taken place, and keeps on returning until it is gratified, and this return is in a regular rhythm for each animal, and, so far as known, according to Darwin and Laycock, this return is always in seven days or in a multiple of seven days.

Domestication increases markedly the reproductive powers; puberty not only comes earlier than in the wild state, but also more young are produced. The favorable conditions for the early life of the young is probably the cause of the more frequent return of the heat in the domesticated animals. At this season, in all known animals having a vulvar aperture there is swelling (Wiltshire). Probably there is in all the mammalia at least a mucous flow from the external genitals at these times. The kangaroo, as a representative of the marsupials, has a bloody and odorous flux in April and September. As we go higher the blood is said by Wiltshire to become more prominent in the flow in proportion to the degree of development of the genital organs. At any rate, a more or less bloody flow is established in sows, ewes, bitches, asses, mares, and cows. In the latter Newmann found blood exuding from the internal surface of the uterus in the rut, and it is estimated by others that the cow loses at each period from one to two ounces of blood. The cow is subject to menorrhagia, and two cases are reported by Wiltshire where heifers apparently suffered from hæmatometra. Dalton says that cows are restless and agitated at rutting time, and Mivart says the same of the cat.

Unfortunately, it is impossible to draw any trustworthy conclusions from observations upon the anthropoid apes; when in confinement they are under such highly artificial surroundings that any inferences drawn as to their normal sexual processes must be very misleading. Many species never breed in confinement. Wiltshire states that monkeys at intervals of four weeks have a flow of nearly as pure blood as has the human female. Other authorities speak of a mucous flow from the swollen genitals, and all bear witness to the intensified sexual desire of the females at these periods, most of the females, however, being salacious at all times.

In the animals where the periodicity is known, it bears no relation to the gestation period. The periods which seem well established are as follows: The cow is in heat every three weeks; sheep and sows every two weeks; mares, buffaloes, and zebras every four weeks. Observations on this point are surprisingly few and imperfect. Cruikshank, Raciborski, and Bischoff have proved that ovulation takes place spontaneously at the rut. No one has proved that it does not take place at other times, to be sure, but it seems unlikely, and in sows, at least, single corpora lutea are not found. In any sow's ovary all corpora lutea look of the same age, and the general appearance points rather to the rupture of a number of follicles at once than to ovulation at random.

I am far from offering these scanty and imperfect observations as a proof of the identity of heat and menstruation, but the two bear a very close resemblance in their rhythmical periodicity, their discharge from the external genitals, and their accompanying constitutional disturbance, and therefore it seems hardly reasonable to deny the identity of functions of which we know almost nothing in animals and little enough in the human species. Wiltshire goes so far as to claim that the primitive seasonal influence has not yet died out in woman, as he affirms that she begins her menstrual life oftenest in the summer, and brings forth her offspring most in the spring of the year. The character of menstruation among savage women would be a most interesting link in the chain of evidence, had we observations on the point. Velpeau says that he has heard that women in Lapland and Greenland menstruate only three or four times a year, and Roberton says of Lapland women that the flow is scanty, and that sometimes they only menstruate in summer. But however we may regard the ancestry of menstruation, it exists as a fact, and the consideration of it in the human female presents itself under three heads: its manifestation in the general system, in the ovaries, and in the uterus.

As to the Systemic Manifestation. In some six hundred and twenty cases investigated by Biene de Boismont and Dr. Jacobi, about seventy per cent. suffered pain during menstruation. The cases were taken at random from all classes, and trades, and were healthy women. The recent investigations of Hermann and Uedeler show that among nulliparous women about the same per cent. suffer from dysmenorrhœa, whether their uteri are flexed or straight, and that in the three classes of nulliparous women, namely, those suffering much pain, little pain, and no pain at all, the percentage of flexed uteri is practically the same, all of which seems to show that dysmenorrhœa is a syatemic accompaniment of menstruation in a much larger number of cases than is generally supposed. Jacobi found that the excretion of urea was increased before menstruation, reaching its highest point just before the flow. During the flow it falls below normal and remains below normal for a few days. The temperature is increased before menstruation, during the flow it falls, but not quite to the normal. The arterial tension is highest just before menstruation, and lowest just after it. That is, the woman is in her best estate a few days before each menstruation. A certain degree of lassitude and irritability seems normal to the menstrual epoch in the ideally healthy woman, and such would seem accounted for by the pelvic congestion; but most women suffer pain which is not as yet to be explained by any known process going on in menstruation.

The Manifestation of Menstruation in the Ovaries. The wide-spread theory of the necessary coincidence of the rupture of a Graafian follicle with menstruation was established by analogy with the lower animals and by a few autopsies, where in menstruating women freshly ruptured follicles were found. Beigel says: "The number of cases in which ripe follicles have been found in the ovaries of women who have died during menstruation is extremely small." Bischoff published ten cases in support of this theory, in all of which he knew the time of the last menstruation. In three of these cases the rupture of a follicle had not taken place at the last menstruation, and in two of the others there was present with the corpus luteum of the last menstruation a freshly ruptured follicle, which two events could not have been more than three weeks apart. He then says, "The results here obtained show that in the human female at each menstrual period, a Graafian follicle is ripened, swells, and usually bursts," a conclusion which seems hardly warranted by the cases.

Williams gives a series of sixteen cases. In six of these menstruation had been going on for four days at the time of death, and in only two of these six did he find a freshly ruptured follicle. Ashwell examined the ovaries of three women who had died during menstruation, and in no one of them was a ruptured follicle found. There are plenty of similar observations, but the recent work of Leopold on the subject is by far the most worthy of consideration.

He took into account only the fresh ovaries of women accidentally killed and ovaries removed by abdominal section. Of all these cases he knew the date and character of the last and of former menstruations. In the course of six years Leopold collected forty pairs of ovaries from which to select, and of these he took only those ovaries in which he was wholly sure of the facts. He then found himself with twenty-nine pairs, forming a pretty complete series from the first day of menstruation to the thirty-fifth day after it. In these ovaries he found freshly ruptured follicles at five, eight, twelve, fifteen, eighteen, and twenty-one days after the beginning of menstruation, and in the case thirty-five days after the last menstruation he found a freshly ruptured follicle and a fresh corpus luteum ten to twelve days old. By freshly ruptured follicles he means follicles ruptured within a few hours or a day or two. At all times ripe, prominent follicles were to be found projecting from the surface of the ovary, with thin walls, and surrounded by a circle of vessels. But the largest follicle does not of necessity rupture first. Leopold compares the ripening follicles to a heap of soap bubbles, the smaller of which may burst before the larger. It depends largely on the surrounding pressure; for example, a small follicle may be pushed to the surface and ruptured by the growth of a larger one underneath it.

A very important factor in the rupture of follicles at intermenstrual epochs must be found in coition, which causes a temporary congestion which would be very apt to burst any follicle which might happen to be nearly ripe at the time. Coste found that in rabbits coition hastened the rupture of the follicles, and Wiltshire states that in birds propinquity of the male hastens ovulation. In a word, the observations of Leopold show most decisively that ovulation and menstruation are not by any means always contemporaneous, although a congestion of the ovaries is apt to cause the rupture of any ripe follicles which may be in them, and consequently probably more follicles are ruptured at menstrual times than at others under the influence of the congestion. From this likelihood of rupture at any time he infers that conception in the human female is possible and more or less likely at any time from puberty until the cessation of ovulation.

But the ovulation theory had, and still has, a great influence, in that it explained the cause and process of menstruation most satisfactorily. Pflüger worked it out as follows: the growth of the Graafian follicles caused an irritation of the ovarian nerve terminations, this irritation accumulated in the centres until a certain amount was reached, when a reflex discharge of force took place and the pelvis was engorged with blood, which access of blood to the ovary was enough to cause the rupture of the follicle and the escape of an ovum. The occasional persistence of menstruation after double ovariotomy was hardly needed to disprove this theory; there were instances enough of ovulation without menstruation and of menstruation without ovulation. As to the former of these: ripened follicles and scars from burst follicles are found on the ovaries of infants (Beigel and Sinety). Freshly ruptured follicles are sometimes found in childhood, in the ovaries of women with amenorrhœa, and in the ovaries of pregnant women (Ritchie often found them at four and five months and even at nine months, and these women had not menstruated during pregnancy). In women after the menopause freshly ruptured follicles are often found (Tait). Conception before menstruation comes on is not very rare; in five hundred and fifty cases given by Beigel eight had conceived before ever menstruating. Instances of conception fifteen to twenty-five days after coitus are numerous. As to menstruation without ovulation, we are dependent for the proof of this upon the absence of freshly ruptured follicles in the ovaries of women who have died during menstruation. In Leopold's cases, already alluded to, the cases of five, seven, nine, eleven, twelve, fifteen, sixteen, and twenty days after the beginning of the last menstruation contained no corpus luteum fresh enough to have been formed at the last menstruation. Ashwell relates the case of a woman who had menstruated regularly for years, in whose ovaries was found no rent, scar, or tear. Stedman reported a case where a woman had menstruated regularly nearly to the time of her death, but whose ovaries were found cystic and atrophied.

In regard, then, to this ovarian source of the menstrual impulse, one case of the persistence of menstruation after a double ovariotomy (and there is an abundance of such cases) is of more weight than a dozen cases where menstruation stopped. There is certainly very strong evidence against the ovaries as the source of the menstrual impulse. But there are other sources to be considered, as Dr. Campbell pointed out to the Gynæcological Society recently. Fear, horror, and violent emotions in general are well known to have an immediate effect upon menstruation in many cases. The influence of the mammæ is marked; Dr. Campbell cites two cases of premature menstruation in children caused by mammary inflammation, and a case where long delayed menses returned in a childless woman who allowed her sister's infant to nurse her breasts for a few days in order to quiet it. A change of climate often stops menstruation temporarily; a sea voyage generally delays or hastens the next period, according to the length of time since the last menstruation, and anæmia as a cause of amenorrhœa is so common as scarcely to deserve mention. The relation of menstruation to mental disturbance is closer than is sometimes supposed. Among Schroeder's conclusions, based on 212 female insane, about half of whom were married, he says: "In a majority of cases with mental disease there was menstrual irregularity of some sort," and "These menstrual difficulties were of as early date and were influenced by the slightest symptoms of mental disease, but did not become prominent until the psychosis was developed." The general system as a source of the menstrual impulse seems to have been too little considered by observers.

But whatever the source of the menstrual impulse, the clinical expression of the process is a uterine bleeding; the cause, manner, and result of that bleeding we come now to consider. The tendency has long been to consider menstruation as an excessive pelvic hyperæmia, during which hæmorrhage was caused by a bursting of the walls of the vessels, or, as Pouchet held, by

a desquamation of the uterine mucous membrane. Kundrat and Williams later insisted upon the desquamation, and Williams announced: "Menstruation, then, is neither a congestion nor a species of erection, but a molecular disintegration of the mucous membrane of the uterus followed by hæmorrhage." His observations in 1875 were based on twelve uteri, nine of whose owners had died of acute diseases. He advanced the view that menstruation was only one step in the cycle of uterine changes, which step we happen to see. The uterine mucous membrane, he says, is continually undergoing changes, consisting of rapid growth, insufficient nutrition of the surface layers, and consequent fatty degeneration and denudation, rupture of the vessels consequently, and hæmorrhage. The whole mucous membrane down to the muscular layer undergoes fatty degeneration, and is cast off cell by cell, and consequently the ends of the blood-vessels are laid bare and they bleed. This removal lasts from three to eight days, when from the cells of the *muscular* layer a new mucous membrane begins to form at the internal os and spreads over the whole uterus, covering it in about one week. Of course, when the bleeding has begun it is too late for the fructification of an ovum at that menstruation, and the ovum of the next menstruation, according to Williams and Kundrat, is the only one that can be fructified. Engelmann does not agree to this, but believes that in the neighborhood of a menstruation the ovum fructified is the one belonging to that menstruation. When we reflect that a casting off of the mucous membrane of the uterus, preceded by an albuminoid granulation of its cells, is one of the earlier post-mortem changes, we are the less inclined to accept Williams' results, especially after comparing them with later and more careful observations. Engelmann modified Williams' results by finding the fatty degeneration superficial only, but he found the hæmorrhage due to a fatty degeneration of the walls of the blood-vessels. "In not one of the many uteri examined at such periods was the mucous membrane, or even its superficial layer, found wanting," writes Engelmann.

If we could accept the results of Williams we might most satisfactorily consider menstruation as a disappointed pregnancy, a pregnancy in miniature. When conception takes place a process of nine months or more of uterine increase is gone through, followed by fatty degeneration and desquamation in the puerperal state. When no conception, the process is completed in a little over a week. But, unhappily, Williams' results are untrustworthy, and Engelmann's views are by no means extreme enough to warrant such a theory. But new methods were to come in and new results to be obtained. Moricke conceived the very original idea of scraping with a curette the uterine mucous membrane of his menstruating patients, and in this way obtained an admirable series of fresh pieces of the mucous membrane at all stages of the process. He concluded that the bleeding was due to diapedesis, and that there was no destruction of the mucous membrane, partial or complete, and no fatty degeneration. He points out the ease of falling into error as to denudation of the mucous membrane, and tells of two cases where shortly after death the mucous membrane had disappeared from the body of the uterus in consequence of post-mortem changes.

Lastly, we come to the observations of Wyder, which were recently undertaken to determine whether or no there is denudation of the mucous membrane during menstruation. In eight cases at or near menstruation he found the uterine mucous membrane completely preserved in three, partly missing in three, and completely wanting in two. In one of the cases of denudation given above it is clear that the denudation was not post mortem, in that ciliated epithelial cells were found in the inner layers of a blood clot contained in the uterus; with them were interglandular cells, but no glandular elements. From his observations Wyder gives the process as follows: there is a hyperæmia of the surface vessels, the blood escapes from the vessels by rhexis and diapedesis, presses apart the tissues, and flows in the direction of least resistance, which is to the epithelial surface. There it raises up the epithelium in blood blisters in part, and in part forms erosions by the falling off of epithelial shreds, and the blood flows away. Frankenhauser observed these blisters, which broke and left erosions, not only in the uterus, but also in the vagina of menstruating women. In the latter respect his observations are probably unique. But to return to this raised epithelium; it is disintegrated and carried off in parts, but other parts are not carried away, and although in union with good tissue, are insufficiently nourished and fatty degenerate, which is thus reduced to a very insignificant process. Where there is little bleeding the total damage may be very slight, and restitution follow almost immediately, but where the mucosa shares to any extent it is a longer process. There is great cellular hyperplasia in the middle and lower layers of the mucous membrane. In a word, there is a varying amount of denudation in consequence of the presence of blood in the tissues, which blood is from hyperæmic vessels by rhexis and diapedesis. In the bloody mucus coming from the cervix during menstruation Wyder found in the earlier days ciliated cylindrical cells, interglandular cells, free nuclei, and fat drops, but later in the process nothing but detritus.

But all this gives us no clue to the meaning and cause of menstruation; we are even more badly off than we were ten years ago, for while we had the ovulation theory to fall back upon we could account for menstruation readily enough, and so long as we could hold to the theory of fatty degeneration and denudation we had in menstruation simply a miniature pregnancy, in which the Hindoos agree with us, insomuch that menstruation before marriage disgraces a girl's whole family, being accounted infanticide; but we are less fortunate than the Hindoos in this respect; we can no longer account for menstruation so easily. In the lower animals the heat is most certainly the time of sexual desire, and, so far as the observations on the subject go, the season of ovulation. In the lowest animals in which we find hyperæmia and pigmentation of the genital tract at the breeding season (the foreshadowing of the heat) it can only exist in relation to sexual desire and ovulation, for they have no uterus, and they nourish no young, that is, the reproductive side of the process is undeveloped. The mammalia inherit this seasonal genital hyperæmia; with them also it is the season of sexual desire, but at the same time by it the uterus is put into the best condition for nourishing a fructified ovum, that is the reproductive side of the process.

In woman, on the other hand, the menstrual period is the season of absent sexual desire, and is by no means contemporaneous with ovulation. The human intelligence has rendered woman sexually independent

of the heat; sexual congress is permitted at any time, and, therefore, she is subject to a condition not prevalent in the brute females, she is liable to conceive at any time. It seems as if, in view of the possibility of a pregnancy at any time, and the immediate demands upon her nutritive force which would come from such an event, woman had to be run at a higher pressure than was necessary for the needs of the non-pregnant female. Moreover, she is more different from the man than the brute females are from their males, and the reproductive processes are intensified in her. Since she is run at such high pressure frequent overflows of nutritive material are necessary in the non-pregnant female, and these overflows take place at certain periods of genital hyperæmia, inherited from the lower animals, that is, at the menses. That is to say, the reproductive side of menstruation is emphasized in woman, the sexual side in the brutes.

Any explanation of menstruation in our present state of knowledge must be incomplete and unsatisfactory, but in the meanwhile it may be to some of us a satisfaction to feel that we have at least a remote inheritance in menstruation if we are not able to assign any better cause for its existence.

REPORT ON PROGRESS IN THORACIC DISEASE.

BY FREDERICK C. SHATTUCK, M. D.

Naether [1] contributes an interesting paper on cerebral abscess as a complication of chronic lung disease, reporting eight cases which were under his observation at the Leipzig Clinic during a period of eleven years.

The cases are classed as follows: —

Three of bronchiectasis with retained secretion and circumscribed pneumonia, in one of which there was thrombosis of a branch of the pulmonary artery.

One of chronic purulent bronchitis, the result of patency of the ductus Botalli.

One of fetid bronchitis and ulcerative tuberculosis of the lungs.

Two of gangrene of the lung, in one of which there was also bronchiectasis.

One of old empyema with fistulous opening through a contracted lung.

Seven of the cases were fatal, and in only one of these was the brain abscess single, a fact which shows that the trephine holds out small prospect of relief, and also that additions to our knowledge of the localization of brain disease are seldom to be derived from this class of cases.

In one case of bronchiectasis with sudden right hemiplegia and loss of consciousness, followed by slight aphasia, the patient had so far recovered after about three weeks in hospital, as to request his discharge. He was seen six months later, and had not wholly regained strength in the paralyzed leg. In default of an autopsy the diagnosis of abscess cannot be regarded as absolutely certain, but the age of the patient — twenty-seven — renders apoplexy improbable, and there was no evidence of syphilis or endocarditis.

A case of empyema followed by single abscess in the brain is also reported by Hall.[2] The chest had been tapped and a drainage tube inserted; but the cavity never closed completely, and nearly two years later headache, vomiting, left-sided convulsions, and coma came on. The wall of the cerebral abscess was nearly an eighth of an inch thick, and hard, which shows that the collection of pus was not of very recent formation. In the discussion which followed the reading of the paper before the Clinical Society of London, a member said he had seen two cases within a year in which cerebral abscess followed empyema treated by removal of rib.

Virchow first called attention to a connection between gangrene of the lung and brain abscess, and soon after Biermer published four cases of bronchiectasis with the same complication, which we now know may have its origin in any chronic ulcerating process of the lung or pleura. The metastatic nature of these abscesses seems to be generally admitted, but it is not clear why the brain is apparently the favorite lodgment for the minute emboli taken up by the pulmonary veins. Perhaps the brain is not the favorite seat of lodgment, emboli finding their way in those cases quite as often to other organs; however this may be, it is certainly in the brain that suppuration is set up by preference. Not being able to give a definite answer to this question the author wisely abstains from bringing forward any hypothesis.

It should be added that a microscopic examination of the pus afforded only negative results. Weigert found in it various low organisms, but they were peculiar neither in shape nor in their behavior toward staining fluids.

ENCAPSULATED EMPYEMA SIMULATING PERICARDIAL EFFUSION.[3]

A man of thirty-two was admitted into hospital with the history of acute disease of four weeks' standing, his health having previously been good. The physical signs pointed clearly to fluid, probably purulent in character, in the left pleura; the chest was tapped, pus was drawn off, and the next day an incision made in the back, but satisfactory improvement in the symptoms did not follow, although the drainage was good. Some days later a careful examination was made and it was noted that the cardiac region was still prominent and tender on pressure; the heart's impulse could not be seen or felt, though there was a slight undulation in the fourth interspace just inside of the mammillary line. The area of dullness had the triangular shape characteristic of pericardial effusion, and the heart's sounds were distant and feeble, though clear. An exploring needle was introduced in the third interspace, the seat of greatest prominence, and pus was withdrawn. The same afternoon an incision was made at the seat of puncture, and pus, estimated at one and a half to two litres in amount, was evacuated, the discharge at first coming in jets synchronously with the action of the heart. The finger introduced into the wound felt the heart pulsating. The patient was more comfortable for a time, but died three days later with symptoms of peritonitis and pyæmia.

The pericardial cavity was obliterated, the membrane being nearly as thick as the finger, and it was found that the abscesses opened by the knife were both pleural and without intercommunication. The anterior collection of pus at its inner side lay in contact with the pericardium, and thus simulated closely effusion into that cavity. It is difficult to see how the mis-

[1] Deutsch. Archiv für klin. Med., xxxiv., 2, p. 169.
[2] British Medical Journal, 1884, i., p. 222.
[3] Pel. Berliner klin. Wochenschrift, 1884, p. 113.

take in diagnosis, which worked in no way to the disadvantage of the patient in this case, could have been avoided. Such cases must be very rare, but it is well to know that they occur: the author suggests that possibly among the cases of incision of the pericardium with recovery and consequent lack of post-mortem evidence, there may have been one similar to his — external, not internal, pericarditis.

A PRACTICAL POINT IN THE TREATMENT OF PLEURAL EFFUSIONS.

Dr. Broadbent,[1] in a clinical lecture, says that when he hears distinct bronchial breathing generally over the chest in cases of pleural effusion, he feels sure that a consolidated lung is immersed in the fluid, and he consequently does not tap unless the symptoms are so urgent as to demand interference. A solidified lung cannot, of course, expand, as does one which is simply collapsed or even compressed, unless it is bound down by adhesions; and experience has shown him that on the resolution of the pneumonia the fluid is usually rapidly absorbed.

He seems to hold the sound views that with grave symptoms a pleural effusion should be withdrawn, whatever the complication; that the course of moderate effusion may often be shortened by tapping; but that, if the lung be consolidated, — one evidence of which is the persistence of bronchial respiration over the whole or a large part of the chest, — it is better to wait, if the condition of the patient warrants such a course.

THE MECHANISM OF THE FRICTION SOUND OF PLEURISY.

Moxon,[2] in common with many others, is satisfied that he has often heard pleural friction, so called, over portions of the chest occupied by fluid, where, consequently, the layers of the membrane, not being in apposition, could not rub. Is the sound, therefore, not produced by creaking of the lymph on the pleura when it is stretched in inspiration?

CHEYNE-STOKES RESPIRATION IN AN INFANT.

Dr. O'Connell, of Sioux City, reports the case in the *British Medical Journal*.[3] He delivered a patient, after an easy labor, of an apparently healthy child, three weeks before full term, according to the patient's reckoning. Normal respiration was speedily established. Five hours after birth the child became ill, and he arrived an hour later to find it apparently dead and laid aside. "On my moving the body the child took a spasmodic inspiration, like a first breath. After a few seconds another inspiration followed, then a third, and so on, with gradually decreasing intervals, until respiration became normal. The heart's action, too, became normal, and the body grew warm and natural in color. After a short time his breathing began to grow quick, and ran up to hyperpnœa, and then declined to apnœa. During the apnœal stage, which lasted five minutes, I failed to perceive the least motion of the thoracic or abdominal walls, neither could I hear the child breathe. With the stethoscope I could hear the heart faintly beating forty times per minute. No drug of any kind had been given to the child. Nothing amiss could be found on careful examination of the body. The bowels had moved spontaneously. Still, as it would twist, draw up the lower limbs, and cry, as if from colic, an enema of simple tepid water was administered, which caused a large alvine evacuation, with seeming relief. At the times when the child appeared to suffer from the recurrent abdominal pain I noticed slight twitching of the facial muscles, with rolling of the eyes. Then followed a paroxysm of Cheyne-Stokes respiration. In seven hours there were a dozen attacks of this abnormal form of breathing. The child died in an apnœal stage twelve hours after birth. No necropsy was allowed.

"Both parents drank a good deal. During her pregnancy the mother partook freely of beer, if not of stronger drinks. She was also suspected, on good grounds, of using bromides, chloral hydrate, and opiates. Her first child, a male also, was very puny and delicate. It was a typical example of Cheyne-Stokes respiration. It is very unusual to see the apnœal stage last so long as five minutes, but I took the time by my watch. I am unable to suggest any explanation in this case."

HEART DISEASE IN BERLIN AND MUNICH.

A discussion has been going on of late as to why heart disease is more than twice as common in Munich as in Berlin, a fact shown by the statistics of the autopsy rooms of the hospitals in the two cities, the material coming, of course, in both from the same class of the community. Schmidbauer proved the fact of the predominance of heart disease in Munich, and then explained it by the enormous amount of beer consumed in that city, 566 litres annually for each inhabitant. His conclusions excited considerable comment, and among his critics is Beetz,[4] who shows that, perhaps from climatic causes, articular rheumatism is more common in Munich in almost exactly the same proportion as heart disease, a fact which goes far to invalidate Schmidbauer's theory. Hypertrophy of the heart is not a direct result of the abuse of alcohol, and, according to Schrötter, an increase in the amount of the blood resulting from the ingestion of large quantities of fluid does not increase the size of the left ventricle, as, on theoretical grounds, it might be expected to do. The consumption of such an amount of beer as is customary in Munich involves the passing of a vast deal of time in close rooms, without bodily exercise, and this must materially enhance the deleterious influence of the beer itself on the general health and the nutrition of the cardiac muscle. The discussion affords a fresh illustration of the great care which should be exercised in drawing conclusions from statistics, and is not without interest to us in America, where the consumption of beer is so steadily on the increase.

CARDIAC MURMURS AUDIBLE AT A DISTANCE FROM THE BODY.

Out of about 900 cases of heart murmur studied by Lublinski[5] during the last six years in three the adventitious sound could be heard by the naked ear at distances of ten to seventy-five centimetres from the chest wall. Two were cases of aortic disease, one of stenosis of the pulmonary orifice. In every case the patient was conscious of the abnormal sound, which interfered with the sleep of one, and caused great anxiety to a second, as well as to his friends, who could also appreciate it.

1 Lancet, 1884, i., pp. 925 and 971.
2 Lancet, 1884, i., p. 53.
3 1884, i., p. 220.
4 Deutsch. Med. Wochenschrift, 1883, p. 720.
5 Zeitschrift f. klin. Med., 1884, p. 523.

Murmurs of this great intensity are most common in aortic stenosis, which, when pure, causes great hypertrophy of the left ventricle without much dilatation of the cavity; they have, however, been observed in all valvular lesions save those of the tricuspid and in pulmonic regurgitation. In some cases the great intensity is lost when the heart fails for any cause, which shows that the vigorous contraction of a powerful heart muscle may be a necessary factor in their production; but in other cases they are persistent, largely irrespective of the force of the heart's action. The three cases referred to, for instance, entered the hospital for cardiac failure in different degrees, were much benefited by treatment, but the change in the murmurs was very slight. In such cases Lublinski thinks it probable that the valves are either very rigid from cretified deposits, or markedly fenestrated, or else that there has been rupture of one of the chordæ tendineæ. Occasionally aneurismal murmurs can be heard at a distance; and Stokes reports two cases, in young women, where the intense murmur was probably functional, as it, together with the symptoms, disappeared under treatment.

DISEASE AT THE TRICUSPID ORIFICE.

It would seem that not only is disease much more common in the right side of the heart than has been supposed, but that it is, in adults at all events, generally acquired, and not congenital, as has been stated by nearly all the recognized authorities. New light has been thrown upon this subject by Fenwick [1] and Duroziez,[2] especially the former, who has collected seventy cases of tricuspid stenosis, and fifteen of incompetency.

Tricuspid is always associated with mitral stenosis, and, in more than twenty-five per cent. of the cases, with aortic stenosis also. Duroziez, — who contributes fourteen of the cases, — it is true, alludes to one in which the constriction was uncomplicated, a case not included in Fenwick's collection. He examined the patient during life, and heard only a systolic murmur over the lower portion of the sternum, but he did not see the heart himself, the autopsy having been made by an interne, who reported that the tricuspid admitted one finger with difficulty, and that the other orifices were healthy. In fifty per cent. of the cases there was a clear history of acute or subacute rheumatism, a proportion which holds good for valvular disease to which no suspicion of congenital origin attaches. Nearly all the cases were in patients more than twenty years of age, and one in a woman of sixty-four; most of them were between twenty and forty. The subjects of the disease were females in all but eight of the seventy cases, a fact which, to say the least, renders it highly improbable that the origin is congenital. Duroziez states that pure mitral stenosis is also nearly confined to the female sex. Fenwick thinks such an assertion too strong, but promises to investigate the point thoroughly. He explains this peculiarity of sex as follows: "I contend that it results, in the vast majority of cases, not, as is still commonly taught, from congenital malformation, or even from intra-uterine disease, but from disease in adult life, and simply and solely from an agglutination of the granulating edges of two opposed and inflamed valves, and this, too, for a purely mechanical reason. I would illustrate my meaning by an example. Let us consider what takes place in any ordinary deep granulating wound on the surface of the body. If the edges be kept in apposition under favorable circumstances direct union will occur between them. If only a limited amount of cohesion be obtained the parts will unite from the bottom, but if they be kept constantly and widely apart each side will separately scab over, heal, and contract. And as on the skin, so, I take it, is it with the valves. If they have a certain amount of rest nature will do with them as she does under like conditions anywhere else. The apposed lines of granulating edges will unite, and stenosis be produced. If the parts are in constant and considerable separation each inflamed border will dry up and cicatrize, and direct incompetence will, of course, ensue. And I contend, therefore, that stenosis is more common in women, because in them the life work is less onerous, the heart action less powerful, the back pressure, therefore, slighter, and consequently the valve disturbance less than in men. And then in men the muscle-straining labor, the compensating heart power more violent, and so the comparatively greater *vis a tergo* and valvular action, keep the inflamed edges non-adherent till nature has puckered and shrunk them, and so produced primary incompetency. Common sense, therefore, furnishes a simple mechanical explanation of the facts which I have shown with relation to the sexes. If further proof be needed it is readily obtainable." To understand fully what follows it must be prefaced that of the fifteen cases of primary tricuspid insufficiency eight were in men and seven in women, a very different proportion from that which obtains in women, though it could be wished that the number of observations were greater. To quote again, "In every case of tricuspid stenosis in men I showed that acute rheumatism had been suffered from, and so severely or so often as to have disabled the patient, and so have changed for a time the hard-working man into a bedridden invalid, and for that period, of course, have placed the heart action at or below that of any woman. On the other hand, in the female cases with incompetency the occupations of only two are noted, but these were both intemperate, and both hard workers, with heavy weights to lift or carry, — one as a fruit seller, the other as a washerwoman, and so their work, and, presumably, their cardiac strain, was probably as hard as that of most men."

It would thus seem that tricuspid disease has been thought extraordinarily rare, chiefly because it has not been looked for carefully, and Fenwick makes an appeal to the members of the Pathological Society in future heart cases to take particular note of the circumference of the tricuspid orifice and the condition of the valves. According to Bizot the average circumference is normally one fifth of an inch less in women than in men, while in the mitral the difference in the sexes is only one one hundredth of an inch.

Duroziez confesses that in only one case in which he made the diagnosis during life has he had the opportunity of verifying it after death. The murmur occurs at the same time, of course, as that due to the mitral constriction, and the latter obscures the former, or, the valves lying very near one another, the murmurs are merged together. Distention of the jugular veins is common alike to constriction and insufficiency at the tricuspid, and it is well known that the latter condition of the orifice often occurs in cardiac failure secondary to mitral disease, simply from over-distention

[1] Trans. London Path. Soc., 1881, p. 42; 1882, p. 64; 1883, p. 35.
[2] L'Union Médicale, 1883, December 23 and 25.

of the right ventricle. If the jugulars are so distended that their valves become incompetent the blood wave can be propagated from the right auricle into those vessels, and, theoretically, presystolic pulsation should be seen in them. Such pulsation does not seem as yet, however, to have been observed.

Recent Literature.

Elementary Principles of Electro-Therapeutics, for the use of Physicians and Students. Prepared by C. M. HAYNES, M. D. Chicago, Ill.: The McIntosh Galvanic and Faradic Battery Co.

This is apparently written for the purpose of increasing the sale of the company's batteries. The batteries of no other maker are described; McIntosh is appended to all the apparatus. We do not believe in any such partisan medical literature. As well might a book on surgery be "prepared," one quarter of which should be devoted to descriptions of the instruments manufactured by the firm printing the work. The McIntosh Company did not need such an advertisement.

The directions for use of electricity in all the various affections to which it can be applied are very full. In many respects the therapeutics of electricity is given very satisfactorily; there are, however, several careless statements, and some omissions. While the book is a safe guide to the use of the various forms of electricity, it cannot be recommended as a scientific production.

The National Dispensatory: Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines; including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with numerous References to the French Codex. By ALFRED STILLÉ, M. D., LL. D., and JOHN M. MAISCH, Phar. D. Third Edition, thoroughly revised. Philadelphia: Henry C. Lea's Son & Co. 1884.

This work, as indicated by its title page, may be regarded as a general commentary upon the last edition of the Pharmacopœias of the four chief civilized nations, although the Pharmacopœias of the United States and of Germany, both of which appeared in the year 1882, and are greatly in advance of those of all other nations, form the chief basis of this revision. The new French Codex, however, which was only published this year, is yet incorporated. The references to the British Pharmacopœia, the last edition of which appeared in 1867, although some later additions were made in the reprint of 1874, remain unchanged in this revision of the Dispensatory.

In addition to the strictly official articles, a large number of extra-pharmacopœial drugs and preparations have been added to those in the previous editions. It is now illustrated by three hundred and eleven wood cuts, many of them representing microscopic structure.

The most recent reviews of the physiological action, so far as it relates to therapeutics, are given. The doses are given both in the metric and the older apothecaries' weights. In this connection it is interesting to note that the old dose for laudanum remains unchanged, and thus this work does not support the statements so widely disseminated by those interested to break down our standard for drugs under the adulteration law of this State.

The work is one of which all physicians and pharmacists would find it greatly to their advantage to have a copy.

B. F. D.

FOREIGN BODIES IN THE EYE.

DR. AGNEW, of New York, writes:[1] "When a patient comes to you complaining of a sensation as if a foreign body were in the eye, you should first examine the eyeball from every point of view. You should then turn over the eyelids and examine their inner surfaces. And here I am reminded of a source of error to which I would call your attention. A few days ago a case came under my observation which illustrates the point. The gentleman had had occasional attacks of conjunctivitis for a year or more. He had then a sensation as if a foreign body were in the eye. On turning out the right lower eyelid, all that was revealed to sight was a slight redness of the conjunctiva. But there was something in the way in which the sensation of a foreign body in the eye was exaggerated that made me suspect he had a single inverted eyelash. Ordinarily he felt as if some irritant was there which was tolerable, but suddenly there would be a cramp-like action of the eyelid, the irritation would grow rapidly worse, and the eye would fill with tears, followed by the discharge of a little mucus, and temporary relief. His beard was of a sandy color, his hair was light brown, and his eyelashes were almost colorless. I looked very carefully along the edges of the lids in search of inverted eyelashes, and saw, on the innermost edge of the lower lid, a slight curving of the inner angle. By allowing a tear to gather upon this inner edge, I saw that there was a difference in refraction in different portions of the tear, and it soon became evident that a delicate decolorized eyelash was there, which, instead of growing from the outer edge of the lid, sprang from the free edge of its inner border. I turned the lid over, and found that this delicate eyelash, which was between the edge of the lid and the eyeball, had been so long caught in that position that it had worn a little groove in the edge of the eyelid; the spasmodic action of the orbicularis, from time to time, so long continued, had embedded the eyelash in the substance of the lid. I removed it, and no further trouble was experienced. This patient had been treated in Europe for acute conjunctivitis several times, and it is possible that the eyelash was on those occasions the cause of all the trouble. An operation will be required to destroy the follicle which produced the misplaced eyelash. So, when a patient comes to you complaining of a sensation as though there were a foreign body in the eye, between the eyelids and the eyeball, you must first look for conjunctivitis. Whether this be present or not, you should then proceed to examine the eye very carefully to see whether a foreign body be present or not. Scan carefully the whole surface of the cornea and of the scleral conjunctiva, and then turn over the upper eyelid and carefully inspect its inner surface. You may then scrutinize the edges of the lids, as I have described, in order to see whether the source of the irritation be an inverted eyelash."

[1] American Practitioner, May, 1884.

Medical and Surgical Journal.

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TWENTIETH ANNUAL REPORT OF THE BOSTON CITY HOSPITAL.

THE present report of the Trustees and Superintendent of the Boston City Hospital for the year 1883–1884 is the twentieth, and covers the completion of the first score of years since the foundation of the hospital. The report therefore presents, in addition to the usual details of a year's work, a summary of results for each year of the twenty, by which a general idea of the hospital's growth in size and efficiency may be obtained.

The whole number of patients in the hospital during the past year was 5061, and they were under treatment an average of 20.7 days each at an average cost to the city of board for each patient of $8.70 per week. The largest number of patients in the hospital at any time was 348; the smallest number in the hospital at any time was 235; the daily average number of patients was 286.29. The number of patients treated in the out-patient department, classified according to their diseases, was as follows: Medical diseases, 3156; surgical diseases, 6493; diseases of the eye, 1632; diseases of the ear, 382; diseases of the skin, 1023; diseases of women, 465; diseases of nervous system, 475; diseases of the throat, 615; total, 14,241.

During the past year the largest number of patients in the hospital at any one time was 348, seven more than the previous year; the smallest number at any one time was the same as last year, 235. The average length of stay was one and one half days less. The number of weeks' board was seventy-five more. Last year 5991 applicants were examined for admission; this year, 6152. Last year 1568 applicants were denied admission; this year, 1372, or 196 less. This has been accomplished only by a more rapid movement in the population of the hospital, the cases being more largely of an acute nature sooner recovered; and also by a compulsory movement of incurable cases to the charge of their friends or to some other institution.

The number of patients admitted with accidental injuries was 531. Of all patients admitted 173 died within forty-eight hours after admission, which is twenty-four more than last year. The rate of mortality was .094 per cent. If from the total number of deaths we deduct those brought to the hospital in a dying condition, the annual mortality is reduced from .094 to .059.

The net cost of maintaining the hospital was $2447 less than last year. The cost of subsistence was less, but salaries and wages in many instances have been increased, the trustees deeming it a wise economy to secure and retain trained and tried officers, nurses, and employees, whose services unquestionably increase in value with increased experience.

Since last year the city has made an appropriation of $40,000 to build a much needed home for nurses. This building, now under way, will be four stories high, built of brick, and designed to accommodate fifty-nine nurses, most of the rooms being intended for one occupant. The rooms now occupied by nurses will thus become available for patients, and the capacity of the hospital, now unequal to the demands made upon it, enlarged from 380 to 450 beds. The home for nurses is thus the first of the pressing needs insisted upon in previous reports to meet with practical recognition. Better accommodation for the out-patient departments, increased facilities for the care and isolation of contagious diseases are crying necessities, and would repay the city many fold for the comparatively small outlay demanded. The superintendent, Dr. Rowe, justly says: "Scarlet fever and diphtheria have been epidemic for several years in this city. This will, undoubtedly, continue until there are sufficient and suitable hospital wards to isolate every case, so that the last residence of the patient can be fumigated and rendered non-infectious by the destruction of the disease germs. The same policy should be pursued with diphtheria and scarlet fever as is now in force with small-pox. When this is done there may be hopes of eliminating these devastating diseases, and the mortality, especially among children, greatly diminished."

These are not the kind of things, however, in which the ordinary city politician is interested. A rate of taxation of $17.50 a thousand is not, in his estimation, too much for the patient tax-payer, but the justification is found elsewhere than in rescuing his humbler and poorer fellow-citizens from disease and death.

The controversy between the trustees and the State, as represented by the Board of Charity, over the cost of treating the large number of cases having no legal settlement, still continues, and involves an annual sum of about $27,000 over and above the amount accepted by the State, which is now added to the expenses of the City Hospital.

DIME MUSEUMS AND VENOMOUS SERPENTS.

THE account of the death of a showman, named Reilly, in New York last month, some twenty-seven hours after having been bitten by a large trained diamond rattlesnake, five feet in length, from Mexico, is not destitute of interest in view of the recent multiplication of dime museums and small shows of which such reptiles, with the attendant snake charmer, so often form a part. Moreover, although the rattlesnake, in common with other venomous reptiles, has become extremely uncommon in the neighborhood of our large cities and throughout our Eastern States (even the Blue

Hills of Milton having almost lost their distinction as its *habitat*), they are extremely common and troublesome in the Southern and Western States and Territories, as, for instance, Texas and Nebrasaka, where stimulation is resorted to both as prophylaxis and treatment, sometimes judiciously, and too often heroically. In the case of Reilly it was reported that as soon as bitten he applied his lips to the wound and exerted all the suction of which he was capable, and then partook very freely of whiskey, a quart being stated as the amount. At the hospital to which he was taken the treatment was mainly a free administration of whiskey and ammonia subcutaneously and hot poultices locally, — a treatment shown by the result, as might have been anticipated, to be quite unavailing.

As some of the most valuable recent contributions toward an elucidation of the composition and action of the venom of this particular serpent have resulted from the investigations of our own countrymen, — we allude especially to Drs. S. Weir Mitchell and Reichert, of Philadelphia, — it would seem that, rare as they may be, we should be prepared to treat such cases of poisoning intelligently when they occur, and our snake performers should, in imitation of their more practiced *confrères* in India, prevent their occurrence by a previous careful removal of the old and supplementary poison fangs of the reptiles they exhibit. That ignorance or recklessness, and not a scrupulous desire to give patrons an honest measure of horror for their entrance money, is the cause of such neglect, seems, from what is known of dime museum management in other particulars, unquestionable. In this very establishment the partner, one Clark, eat fire, and Mrs. Clark represented the customary Circassian girl; the snake charmer's conscience should therefore have been sufficiently indurated to permit his performing with fangless snakes, and his histrionic talents sufficiently developed to enable him to imitate his eastern prototype again in feigning the necessary symptoms of poisoning, when struck by his pets, applying his secret charms, and gradually recovering.

The mode of ejection, the composition, and the action of the venoms of different classes of serpents, though differing in details, have much in common, and the investigations of Mitchell in this country upon crotalus poison, and of the officials of the Calcutta Snake Poison Commission, Messrs. Wall, Richards, and others upon viperine (Daboia) and cobra poisons, supplement and confirm each other in a marked degree, as far as treatment is concerned, at least. Dr. Joseph Ewart, for several years at the head of the Calcutta Snake Poison Commission above referred to, writes a correspondent, commenting upon Reilly's misfortune: "It is a pity that our being devoid of any antidote was not at once recognized and acted upon. Some years ago I strongly represented this, as others had done, and urged excision as the only hope of saving life; and since then my old assistant, Dr. Wall, has proved by experiment that if done in time by careful dissection, under an anæsthetic, and the resulting wound be freely washed out by a solution of permanganate of potash, the whole of the virus injected into the cellular structures may be promptly removed and otherwise certain death be successfully averted." In connection with incision or excision the question of time is the important one, and to increase the favorable chances a ligature should always, when practicable, be applied between the bitten part and the heart.

Dr. Ewart elsewhere writes:[1] "Although of late years much has been done to illustrate the action of snake poison, to ascertain its pathological effects and its chemical composition, we have not as yet discovered an antidote. We have ascertained that liquor potassæ, permanganate of potash, nitrate of silver, and other reagents which have the power of precipitating its active principles, when mixed with it out of the body render it harmless. M. Lacerda thought that he could neutralize it when deposited in the tissues by following it up with injections of a one per cent. solution of permanganate of potash. If this could be done before a fatal quantity had reached the blood, and all the poison injected could be brought under the influence of the alleged antidote, it might succeed. Wall has shown that it has no antidotal power when put into the blood in large quantities. And the practical impossibility of precisely following the course the poison has taken in the soft structures renders it a very uncertain and doubtful remedy. The antidotal power of intravenous injections of liquor ammoniæ was disproved by Fontana a century ago."

Weir Mitchell reached very similar conclusions in 1861[2] and in 1868.[3] Excision or even amputation, incision with free suction, as by cups, supported by the early ligature, applied continuously or intermittently, are the only means which can be relied upon to avert the issue in dangerous cases, and cases are, in general, severe according to the size and vigor of the rattlesnake, and the entrance of one or both fangs. The severity of the early symptoms may, as a rule, determine the justifiability of a resort to so serious a measure as amputation. Mitchell failed to find any general antidote or any reliable local application, such agents as tannin, iodine, etc., merely checking locally the usual tendency to hæmorrhage from the capillaries. The benefit of suction by the mouth, unless preceded by incision, or unless the wound itself be such as to permit free hæmorrhage, is but slight. The process of suction is safe enough for the performer, unless there should be abrasions of the mucous membrane, for Mitchell has shown that rattlesnake venom is absolutely harmless when swallowed, because it is incapable of passing through mucous surfaces, and because it undergoes some change during digestion.

Both our own and the India authorities agree that reliance must be placed mainly on the early removal of the poison. Stimulants are useful, as in other depressing assaults, to support the strength. With stimulants and the intermittent ligature the system will undoubtedly often support an attack which would other-

[1] Poisonous Snakes and their Poisons, November, 1883.
[2] Treatment of Rattlesnake Bites, etc., etc., North American Medico-Chirurgical Review, March, 1861.
[3] Toxicology of Rattlesnake Venom, New York Medical Journal, January, 1868.

wise prove fatal. The virus of poisonous snakes is not injurious to their own species, nor does it affect injuriously any of the venomous varieties of the Ophidia, and Dr. Ewart still hopes for the discovery, from a study of these points, of a successful and reliable antidote for man.

MEDICAL NOTES.

— A fact of some political significance is announced from France, to wit, that the French government has bestowed the order of the *Legion d' Honneur* on Dr. Koch, in recognition of his services in the cholera district rendered during his short stay in France.

— The *Lancet* remarks, apropos of capital punishment in France: "At length it is beginning to be recognized in France that the brain of a decapitated criminal lives, and consciousness is maintained for an appreciable time, which to the victim may seem an age, after death — an opinion we strongly expressed many years ago. This ghastly *fact* — as we have no doubt it is — being perceived, it is beginning to be felt that executions cannot any longer be carried out by the guillotine. Prussic acid is now proposed. If instantaneous death be desired, this is clearly inadmissable. The period taken to terminate life by poison of any kind must needs vary greatly with the individual. In not a small proportion of instances we fancy death by prussic acid would be considerably protracted, and although long dying is not so horrible as living after death — so to say — yet it is strongly opposed to the interests of humanity to protract the agony of a fellow-creature dying by the hand of justice. Electricity is another agent suggested. We doubt the possibility of applying this agent so as to destroy life instantly. We confess that, looking at the matter all round, we incline to think that hanging, when properly performed, destroys consciousness more rapidly, and prevents its return more effectually than any other mode of death which justice can employ. It is against the bungling way of hanging we protest, not against the method of executing itself. That is, on the whole, the best, we are convinced."

— At the conference recently convened by the Medical Society and the National Health Society of Great Britain, the subject for discussion on the 1st instant was Recreations and Gymnastics. After the reading of several papers Sir James Paget maintained that the English system of gymnastics, — namely, outdoor games, — was far superior to the German, Swedish, or any other system.

— The *Leisure Hour* relates the following anecdote of Abernethy, which illustrates his abhorrence of garrulity on the part of his patients, and how a bright woman, by her cleverness in humoring this well-known trait of his, succeeded in winning the rare meed of a compliment from the great surgeon. She made him three visits, and the conversation at each of them is worthy of attention by busy practitioners and "case-takers" in general. At the first visit, holding out her wounded finger as she entered the surgeon's consulting room, the lady allowed him to open the following conversation: Abernethy — Cut? Lady — Bite. Abernethy — Dog? Lady — Parrot. Abernethy — Go home and poultice it. The second visit was fruitful of three utterances over the extended finger. Abernethy — Better? Lady — Worse. Abernethy — Go home and poultice it again. At the third interview the finger, extended for the third time, occasioned these words: Abernethy — Better? Lady — Well. Abernethy (with enthusiasm, while his twinkling eyes showed his proper appreciation of the lady's fine humor) — 'Pon my honor, madam, you are the most sensible woman I ever met. Good-by!

— The "fresh air" philanthropists are doing their good work at the present time. That their kind intentions are not always met with the appreciation that they deserve seems to be indicated by the following anecdotes which we clip from a non-medical contemporary: —

A woman at Litchfield, Conn., had agreed to take a boy and his sister for their second visit to the place. The boy came alone, however, and being asked about his sister, replied: "Mother would n't let her come to Litchfield this year. She says she got the malaria coming out with the fresh air fellers last year." The children live on Baxter Street, New York.

Again, among the young waifs brought out from the city a young lad stood looking at the circus pictures when a couple of ladies came up, and one of them, pointing to the boy, said: "That is one of the 'fresh air' children." The other lady remarked, "He looks as though he might be; I 'll speak to him." So she said, "My boy, are you one of the 'fresh air' children?" "Well," he replied, "not so very d——d fresh!" Which ended the dialogue.

— A writer in the *Southern Clinic* advocates the following plan of using chloral hydrate as a vesicant: Powdered chloral sprinkled on adhesive plaster and melted by a gentle heat (not more than enough to cause plaster to adhere to the flesh) is applied, while warm, to the part where the blister is wanted; within a few minutes a gentle heat is felt, increasing in intensity for a short time, then gradually easing off, and at the end of about ten minutes the part is free from pain. At the expiration of this time, or as soon as the pain has subsided, the plaster, if removed, will disclose a surface as effectually blistered as by a cantharidal plaster after six hours. Thus within about ten minutes the work of an old-fashioned blister is accomplished, with many advantages over the latter: (1) rapidity of action; (2) the ease of application; (3) the non-occurrence of strangury; and (4) it may never be taken off to have the blister dressed, but may be allowed to remain until the plaster loosens and comes off itself, the blistered surface in the meanwhile healing kindly.

— That the "love of money is the root of all evil" seems to have received confirmation in a novel sense from the observations of Professor Rejnsch at Erlangen (*Allg. Med. Centr. Z.*, 31, 1884), who on examining a number of coins found, to his astonishment, that all coins which showed some encrustation, little

sediments, etc., on their surface, contained living bacteria. Reinsch then collected coins of all nationalities, and made the same observation in all coins that had been in circulation for a number of years. When the adherent dirt particles are removed with a perfectly clean (aseptic) knife, and dissolved in distilled water, a sufficiently powerful microscope will at once reveal the bacteria. The dirt sticking to coin seems to offer to these microzymes a soil specially fertile and favorable to their development. Considering the immense circulation of money passing through millions of hands it may be probable that coins form no small factor in the transfer of zymotic disease. If this be true it would seem probable that a paper currency, from its greater uncleanliness, would serve as a more favorable channel for the transfer of infectious diseases than a metallic one. Zymotic considerations, therefore, may be added to the politico-economic arguments against the Greenback party. Immersion in a boiling solution of caustic potash, which has been found to remove all the bacteria from coins, is hardly practicable in the case of bills. Yet in spite of the danger there will probably be found those who will neglect to repudiate and discard this carrier of infection.

— A recent paper by Assistant-Surgeon R. C. Newton, United States Army, in the *Medical News* (July 5th) gives the particulars of an outbreak of intermittent fever in an army post in Indian Territory, with a topographical sketch of the camp. A creek which carries much floating vegetable débris in the spring freshets, and deposits it along its banks as it recedes, is to the north of the post. The north wind has been observed to be the malaria-bringing wind. The barracks are so disposed that certain ones are directly exposed to this north wind, while others are sheltered by the former buildings. Figures as to the number of cases and the total days' service lost on account of malarial sickness show a marked correspondence to the amount of exposure of the several barracks to this north wind. It is also worthy of note that the troops stationed at this post are colored, and that the disease is as frequent in them as in whites.

— An interesting case, unfortunately attended with a fatal result, is reported by the *Medical Press* (July 16th) from Grays, in Essex, England, the victim being a little girl, three years of age, the daughter of an officer of the Shaftesbury training ship. While on the way to school, accompanied by an elder child, the deceased tripped and fell, and in doing so struck the angle of the right eye with the sharp point of a piece of slate pencil held in one hand. A slight amount of hæmorrhage ensued; but after the shock of the accident the child seemed none the worse for some time. In about three weeks, however, she complained of pain in the eye and head, and symptoms of acute inflammation rapidly supervened; convulsions set in, and in a little more than twenty-four hours the little sufferer was dead. The medical evidence at the inquest attributed the result to meningitis induced as a consequence of the injury to the eye, the wound inflicted on which had, however, entirely healed; and the case possesses many features of interest in this connection. At present no details have been given respecting the constitution of the patient, except that she is described as having been a "very healthy child;" but the occurrence of such cases has been sufficiently often recorded to make it not improbable that a correct explanation has been given in this instance.

— An important legal decision was, according to the *Maryland Medical Journal*, recently rendered in one of the Western States which may have a very important influence in preventing suits for damage from malpractice. Two surgeons had been employed in a case, but in different ways, and for different compensation. The patient not being satisfied with the treatment refused to pay either of the bills rendered. A suit was brought by one of the surgeons and a judgment was given in his favor by the court. The patient then brought suit for malpractice, but the surgeon put in as defense that this question had been adjudicated in the previous suit and could not be again raised. This defense the court held to be a good one, deciding that the former suit was a bar to the second one. According to this decision a surgeon need not fear a suit for damages from malpractice if the value of his services has been acknowledged in a suit to recover the amount of his bill. In other words, the surgeon may possibly forestall a suit for damages from malpractice by instituting a suit for the amount of his professional services.

— The next International Medical Congress will be held in Washington, the invitation of the American Medical Association conveyed through Dr. Billings at Copenhagen having been accepted.

— The annual revenue of the British Medical Association, we learn from its official organ, exceeds $100,000. One half is derived from annual subscriptions of members, and nearly as much is obtained from advertisements and sales of the journal, the remainder being from interest on investments. The excess of income over expenditures in 1883 was $12,020. The Association now has over $85,000 invested in government and railway securities.

NEW YORK.

— The second annual report of the Central Council of the Charity Organization Society, which has just been published, shows that during the last year the agents of the Society made 23,091 reports in regard to applicants for assistance. The Society keeps a street register on cards in such a way as to group together all the families applying for charity or represented in the city penal institutions, and 19,658 houses are included in it. In one section of the city, the report states, there were found three short blocks with eleven liquor shops in each, the bulk of the support of the latter being evidently drawn from the gifts of the benevolent to the wretched denizens of the locality. "This picture," it continues, "serves to suggest the two leading causes of the vast pauperism with which this Society has undertaken to cope — intemperance and misplaced alms." Of 694 persons found begging in the streets fifty-five per cent. were

able-bodied; forty-one per cent. could have earned their support wholly or in part; and but four per cent. had apparent excuse for asking aid of any one. The following are samples of some of the cases investigated: A white-haired man was "blind" on Broadway by day, and at night a well-known poker player in Baxter Street, with full powers of vision. A paralyzed tramp was in partnership with an able-bodied one. The latter would stay at home and write heart-rending appeals, which the former carried around, and at night they would divide the profits. Eighty-nine of the 694 street beggars were committed to Blackwell's Island for various terms.

— The annual meeting of the American Society of Microscopists was held at Rochester, August 19th, 20th, and 21st. During the proceedings an address was delivered by Rev. Dr. W. H. Dallinger, president of the Royal Microscopical Society, and Prof. Alfred N. Bennett, of London, who also came as a delegate from the latter Society, read a paper on Fungi Found in Sewage Effluvia. Among the other papers was one on The Hair Microscopically and Medico-Legally Considered, by Dr. William J. Lewis, of Hartford. The sessions were concluded by an evening reception in the State Arsenal, tendered by the Rochester Academy of Science.

— Prof. Frederick S. Dennis, of Bellevue Hospital Medical College, has filed plans for the Carnegie Laboratory, for the construction of which Mr. Andrew Carnegie has presented the college with $50,000. It is to be built on Twenty-Sixth Street, opposite the hospital grounds, and will be fifty feet square, and seventy feet in height.

Miscellany.

SCIENCE IN TRADE.

The *Sanitary Engineer*, speaking of the application of the scientific spirit to the things of common life, says: —

"The importance of scientific investigation in sanitary matters is a thing we have often had occasion to insist on, and is, in fact, the urgent need of the present day. This is well known and generally assented to by the public, and the fact that a general demand for it exists is sufficiently proved by the vast amount of pseudo-scientific literature which is being produced as the best means of advertising certain things and persons. The merits of certain baking-powders, disinfectants, water-closets, ventilating cowls, etc., etc., are set forth by certificates of analyses and tests given by Professor So-and-so, and the preparation of such certificates is becoming a rather lucrative profession. While many of these certificates and elaborate puffs, in the shape of formal papers, are prepared by men who are so entirely unacquainted with scientific methods that they betray their ignorance and the mercenary motives which actuate them in almost every sentence, there are a few who possess enough knowledge of chemistry and physics to avoid making gross blunders, and are yet not over-scrupulous in the use which they will make of their knowledge if a sufficient pecuniary consideration be presented.

"It is true that such men are rare, for scientific training fosters the love of truth, and the amount of patient work which it demands is such as to have a strong tendency to secure the survival only of the fittest, which, in this case, means those who will make an honest and proper use of the knowledge they have obtained. Nevertheless, a man *may* be a scientific man, and, at the same time, very shaky in his morals, and such men are very dangerous. There is comparatively little danger, however, from the professional certificates, seeing that it has now come to be generally understood that such certifiers convey really reliable information rather with regard to the character and pecuniary necessities of the men who make them than in regard to the articles to which they relate."

DEFOE UPON THE PLAGUE IN LONDON.

The great plague of London began in December, 1664, and continued in some measure till September, 1666, when the great fire put a stop to it by burning up the foul matter upon which it fed and throve. Meantime from 68,000 to 100,000 persons had fallen victims. Despite the fact that fires were kept burning for three days, with the view of somehow purifying the air, yet the sanitary science of the day consisted chiefly in isolation rather than in disinfection. Defoe's account of the scourge, while generally held to be in part imaginative, yet presents us the most vivid account of it we have, and by contrast is very suggestive of the wholly different plan upon which the officers of public health proceed at the present time when epidemics are present or are threatened. We reproduce the classic account already, doubtless, familiar to many of our readers: —

"It was now the beginning of August, and the plague grew very violent and terrible in the place where I lived; and Dr. Heath coming to visit me, and finding that I ventured so often out in the streets, earnestly persuaded me to lock myself up, and my family, and not to suffer any of us to go out of doors; to keep all our windows fast, shutters and curtains close, and never to open them; but first to make a very strong smoke in the room, when the window or door was to be opened, with rosin and pitch, brimstone and gunpowder, and the like, and we did this for some time; but as I had not laid in a store of provisions for such a retreat it was impossible that we could keep within doors entirely. And here I must observe again that this necessity of going out of our houses to buy provisions was, in a great measure, the ruin of the whole city, for the people catched the distemper on these occasions, one of another, and even the provisions themselves were often tainted, at least I had great reason to believe so. However, the poor people could not lay up provisions, and there was a necessity that they must go to market to buy, and others to send servants or their children; and as this was a necessity which renewed itself daily, it brought abundance of unsound people to the markets, and a great many that went thither sound brought death home with them.

"It is true people used all possible precaution. When any one bought a joint of meat in the market they would not take it out of the butcher's hand, but took it off the hooks themselves. On the other hand, the butcher would not touch the money, but have it

put into a pot full of vinegar, which he kept for that purpose.

"The buyers carried always small money to make up any odd sum, that they might take no change; they carried bottles for scent and perfume in their hands, and all the means that could be used were employed; but then the poor could not do even these things, and they went at all hazards. Innumerable dismal stories we heard every day on this very account.

"Sometimes a man or woman dropped down dead in the very market, for many people that had the plague upon them knew nothing of it till the inward gangrene had affected their vitals, and they died in a few moments; this caused that many died frequently in that manner in the street, suddenly, without any warning. Others, perhaps, had time to go to the next bulk or stall, or to any door or porch, and just sit down and die, as I have said before. These objects were so frequent in the streets that when the plague grew to be very raging on one side there was scarce any passing by the streets, but that several dead bodies would be lying here and there upon the ground; and in those cases the corpse was always left till the officers had notice to come and take them away, or till night, when the bearers attending the dead-cart would take them up and carry them away. Nor did these undaunted creatures who performed these offices fail to search their pockets, and sometimes strip off their clothes, if they were well dressed, as sometimes they were, and carry off what they could get."

THE PATHOGENIC MICROBES OF GONORRHŒA.

THE *Medical News* (August 16th) remarks upon this subject that the gonococcus which was discovered in 1879 by Neisser is discussed in a recent number of the *Nordiskt Medeinskt Arkiv* by Dr. Edward Welander in an elaborate article, in which he concludes that they are characteristic of the disease. His observations are to the following effect:—

The gonococcus is always found in groups, never in chaplets; it is seen in the interior as well as at the exterior of pus-cells, frequently in large groups upon the epithelium, and, besides, in a free state in the secretion. The proofs that they are the pathogenic microbes of blennorrhagia are, according to Welander, that he has found them in one hundred and twenty-nine cases of acute, and in fifteen cases of chronic blennorrhagia, in the male, and in the purulent urethral secretion of forty-nine females, while he has not found them in other secretions; in twenty-five cases of blennorrhagia in all of which the gonococcus was found, he ascertained the persons who communicated the disease, and in them, too, the gonococcus was present. Further, inoculation with secretions which did not contain the gonococcus gave negative results, while blennorrhagia followed those cases in which purulent matter containing the gonococcus was used. Still, the scientific proof is wanting, for the few culture-experiments that have been made are incomplete, or discredited; and so far the cultivation of the gonococcus has proved exceedingly difficult.

In the treatment various antimicrobic remedies have been tried, such as carbolic acid, corrosive sublimate, and iodoform, but the results have not been satisfactory. Welander regards an abortive treatment during the first two or three days as quite proper, and his method is first to cleanse thoroughly the anterior portion of the urethra, chiefly the navicular fossa, with cotton and forceps, thus removing a quantity of epithelial cells with the gonococcus in or upon them, and then cauterize with a solution of nitrate of silver.

So far, it seems that the discovery of the gonococcus has not helped the treatment of blennorrhagia; but it certainly is a great gain to be able to say positively when the contagiousness of the disease has ceased, and when, for example, a man may enter married life safe from the danger of communicating disease to his wife, and thus making her suffer for his sins, giving her not only different forms of intra-pelvic inflammation, but, according to Dr. Noeggerath's views, making her sterile. In medico-legal cases the discovery may prove of the greatest importance. Thus in cases of leucorrhœa in children, against whom it has been charged that rape had been attempted, and disease thereby communicated, the absence of the gonococcus in the vulval or vaginal discharge would at once disprove the charge.

As an incidental practical point, Welander suggests that the oculist may be enabled, by determining the presence or the absence of the gonococcus, to ascertain the nature of a purulent inflammation of the conjunctiva.

MALE HYSTERIA.

THE subject of hysteria in males has lately been brought prominently before the Berliner Medicinische Gesellschaft, says the *Medical Times*, August 9, 1884. A prolonged discussion upon some of the points raised served to show very clearly that the nature and origin of the phenomena so frequently grouped together under that convenient title, are as far as ever from any clear and comprehensible definition. The constant association of hysteria with affections of the uterus, or indeed of any single organ, has long since been disproved, but its frequent association with disease or disordered function of some of the viscera, is clearly shown by many recorded cases. It is only of recent years that the occurrence of hysteria in males has been fully recognized, and the proportion of male to female cases formerly given by Briquet as 1 to 20, is probably somewhat below the mark.

Heredity is a marked feature in these cases, and there is usually a history of nervous irritability in childhood. The period of youth and puberty is the most common time for hysterical phenomena in males, whereas in women there is no period of life exempt from the liability. In his paper on the subject Herr Mendel relates some typical cases, and points out that in some instances a kind of dual existence appears to be present in which the patient may be in perfect health with intervals of hysterical disturbance of the nervous system, the memory in each state retaining no impressions of the events taking place in the other. He draws a marked distinction between hysteria and hypochondriasis. In cases of the latter class, the patient seeks out a cause for his discomforts, and fixing his mind upon the one point, cannot be reasoned or persuaded out of the truth of it, no matter how absurd and inconsistent it may be. The hysterical patient on the other hand exhibits a greater variety of functional disorders, is much influenced by his surroundings, and

gives every evidence of nervous instability. Hence the rapidity with which hysterical cases may be cured when entirely removed from old associations and the sympathy of relatives. Among the complex symptoms characteristic of hysteria, is that of local pain. Until recent years this local pain has generally been believed to be pelvic and to be associated with the ovaries.

Many cases, however, were cited in the debate on Herr Mendel's paper in illustration of the fact that such painful spots may also be found elsewhere. Pain localized in the right ovarian region was found to persist unaltered in a case in which the ovary and a tumor connected with it had been removed by Herr Landau, and hence it could not be due to direct local causes. In his remarks upon the case, however, the operator expressed belief that the pains are essentially to be regarded as forms of visceral neuralgia, having some peripheral origin, most probably in the genital apparatus. In an interesting case related by Herr Senator, two painful spots were discovered, symmetrically situated over the parietal bones, in a boy who exhibited very marked hysterical symptoms. Pressure on these spots, even during sleep, at once set up violent crying and struggling. The case was rapidly cured by isolation. The relation of these painful spots to the condition of hemi-anæsthesia in women is not as yet determined, but a few cases have been recorded by Remak and Landau, in which a bimanual examination of the ovary of the affected side proved the organ to be exquisitely tender. In one instance, with similar symptoms, the painful spot was localized in a movable kidney.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 16, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whooping-Cough.	Diphtheria and Croup.
New York	1,340,114	657	340	34.65	10.80	23.10	1.95	4.05
Philadelphia	927,995	392	195	34.75	8.25	24.75	1.50	3.00
Brooklyn	644,526	299	174	39.60	6.93	29.27	4 95	1.65
Chicago	632,100	243	154	38.22	4.92	27.06	.82	2.46
Boston	423,800	196	99	36.72	7.14	25.50	4.08	1.02
Baltimore	408,520	158	79	17.01	11.97	11.97	1.89	3 78
St. Louis	400,000	177	79	35.84	11.20	16.80	1.12	2.24
Cincinnati	272,400	103	50	24.25	12.51	19.40	.97	.97
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	102	55	32.34	9.80	25.48	—	—
Pittsburg	180,000	94	55	15.90	4.24	—	4.24	9.54
Milwaukee	142,400	81	66	51.60	6.00	46.80	2.40	—
Providence	119,405	47	26	37.80	25.20	29.40	2.10	4.20
New Haven	62,882	29	13	20.40	13.60	13.60	3.40	—
Nashville	54,400	24	13	37.80	12.60	16.80	—	16.80
Charleston	52,286	33	16	21.70	6.20	12.40	—	—
Lowell	71,447	25	13	24.00	4.00	16.00	—	—
Worcester	69,442	25	10	48.00	8.00	36.00	8.00	—
Fall River	62,674	30	25	56.10	—	46.20	—	—
Cambridge	60,995	19	12	47.34	—	26.30	—	5.26
Lawrence	45,516	13	5	38.45	1.69	38.45	—	—
Lynn	44,895	24	8	29.12	24.96	20.80	—	8.32
Springfield	38,090	12	6	50.00	16.66	33.33	—	8.33
Somerville	31,350	13	8	53.83	15.38	45.14	7.69	—
Holyoke	30,515	17	11	47.00	11.77	35.32	5 88	—
New Bedford	30,144	16	6	37.50	32.25	32.25	—	—
Salem	29,503	13	5	15.38	23.07	7.69	—	—
Chelsea	24,347	9	3	11.11	22.22	—	—	—
Taunton	22,693	8	4	50.00	12.50	50.00	—	—
Gloucester	21,400	4	2	25.00	—	—	25.00	—
Haverhill	20,905	5	1	20.00	20.00	20.00	—	—
Newton	19,421	3	3	33.33	—	33.33	—	—
Brockton	18,323	8	3	37.50	37.50	25.00	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	7	2	57.12	14.28	14.28	—	—
Fitchburg	13,433	6	2	16.66	16.66	16.66	—	—
Ninety-two Massachusetts towns	—	87	30	26.18	17.85	23.80	—	—

Deaths reported 2979 (no reports from New Orleans and Buffalo): under five years of age, 1573; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 1037, diarrhœal diseases 714, consumption 304, lung diseases 143, diphtheria and croup 85, whooping-cough 64, typhoid fever 55, malarial fevers 29, scarlet fever 29, measles 28, cerebro-spinal meningitis 16, erysipelas eight, puerperal fever seven, small-pox one, typhus fever one. From *typhoid fever*, Philadelphia 12, St. Louis 11, Boston six, New York and Chicago five each, Brooklyn and District of Columbia two each, Milwaukee, Providence, New Haven, Charleston, Lowell, Holyoke, New Bedford, Chelsea, Brockton, Newburyport, Andover, and Stoneham one each. From *malarial fevers*, New York and St. Louis 10 each, Baltimore six, Brooklyn two, Charleston one. From *scarlet fever*, Philadelphia and Chicago five each, St. Louis four, Boston and District of Columbia three each, New York, Brooklyn, and Baltimore two each, Pittsburg, Lowell, and Cambridge one each. From *measles*, New York 12, Chicago eight, Brooklyn three, St. Louis two, Philadelphia, Pittsburg, Milwaukee, and Cambridge one each. From *cerebro-spinal meningitis*, New York three, Philadelphia, Cincinnati, Newburyport, and Fall River

two each, Chicago, Boston, Cambridge, Springfield, and Salem one each. From *erysipelas*, New York five, Boston, Baltimore, and St. Louis one each. From *puerperal fever*, Brooklyn two, Philadelphia, Boston, Milwaukee, Nashville, and Charleston one each. From *small-pox*, Philadelphia one. From *typhus fever*, Cincinnati one.

Cases reported in Boston: scarlet fever 50, typhoid fever 20, diphtheria eight, measles three.

In 111 cities and towns of Massachusetts the total death-rate for the week was 19.68 against 20.44 and 19.11 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,620,975, for the week ending August 2d, the death-rate was 23.3. Deaths reported 3909: acute diseases of the respiratory organs (London) 198, diarrhœa 689, measles 109, whooping-cough 76, scarlet fever 74, fever 48, diphtheria 21, small-pox (London 11, Liverpool, Hull, and Sunderland two each, Sheffield 1) 18. The death-rates ranged from 12.7 in Huddersfield to 34.6 in Preston; Blackburn 23.6; Bradford 21.7; Leeds 24.4; Leicester 28.7; Liverpool 28.9; London 22.9; Manchester 27.5; Nottingham 24.4; Sheffield 2; Sunderland 22.4; Wolverhampton 23.3. In Edinburgh 15.59; Glasgow 24.5; Dublin 23.0.

The meteorological record for the week ending August 16th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
August, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 10	30.114	62	71.6	56	75	92	100	89	N	E	NE	8	10	5	C	O	O	—	—
Mon., 11	30.090	62	67.6	60	96	84	93	91	N	SE	SW	11	9	1	O	C	O	—	—
Tues., 12	30.201	64	70	59	92	72	95	86	W	SE	NE	3	5	8	F	O	O	—	—
Wed., 13	30.137	60	63	58	96	95	100	97	NE	N	N	8	15	6	O	O	R	—	—
Thurs., 14	30.089	65	72	59	90	87	100	92	NW	SE	SW	5	8	6	O	C	C	—	—
Fri., 15	30.067	67	83	60	81	69	97	82	NW	SE	NE	5	10	3	C	C	O	—	—
Sat., 16	30.182	68	79	61	83	85	100	89	N	SE	Calm.	1	8	0	C	C	O	—	—
Mean, the Week.	30.126	64.0	72.3	59				84.9										22.25	0.35

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM AUGUST 16, 1884, TO AUGUST 22, 1884.

BIRMINGHAM, H. P., first lieutenant and assistant surgeon. Granted one month's leave of absence. S. O. 162, Department of the Missouri, August 12, 1884.

WILSON, GEORGE F., first lieutenant and assistant surgeon. Relieved from duty at Fort Walla Walla, W. T., and to take station at Vancouver Barracks, W. T. S. O. 120, Department of the Columbia, August 13, 1884.

WOODWARD, J. J., major and surgeon. Died August 17, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING AUGUST 23, 1884.

RIXEY, P. M., passed assistant surgeon. Orders to U. S. S. Lancaster revoked. To continue on special duty.

MARTIN, C., medical director. To be retired August 21, 1884.

HEYL, T. C., surgeon. Detached from U. S. S. Independence, ordered to U. S. S. Adams.

AYERS, J. G., surgeon. Detached from U. S. S. Adams, placed on waiting orders.

CURTIS, L. W., assistant surgeon. Detached from U. S. S. Adams, placed on waiting orders.

STEPHENSON, F. B., passed assistant surgeon. Detached from Navy Yard, New York, ordered to C. S. S. Bache.

DERR, E. Z., passed assistant surgeon. Detached from C. S. S. Bache, placed on waiting orders.

OBITUARY. DR. JOSEPH JANVIER WOODWARD, U. S. A.

SURGEON WOODWARD, major and brevet lieutenant-colonel, was born in Philadelphia in 1832. After pursuing his academic course in that city, he was graduated in medicine from the University of Pennsylvania in 1853. He practiced medicine in Philadelphia until he was appointed an assistant surgeon in the army, August 5, 1861. He served with credit and distinction through the war of the rebellion, not only as concerned the performance of his duties to the government, but also with regard to the advancement of his profession. He recorded observations on camp dysentery and on typho-malarial fever, which were of a nature to throw positive light upon many difficult questions connected with those affections and their management in armies; his original work in microscopy, and particularly in photomicrography, after the termination of the war, was such as to give him a world-wide reputation. His most lasting monument, however, will be the excellence of the literary work done by him, in conjunction with the late Surgeon Otis, in preparing the early volumes of the Medical and Surgical History of the War of the Rebellion. Not only the medical corps of the army, but the profession at large, has sustained a serious loss in the death of Dr. Woodward.

Dr. Woodward had been ill for some months, and his death, while not altogether unexpected, has cut short a brilliant career at a comparatively early age.

BOOKS AND PAMPHLETS RECEIVED. — Fifth Annual Report of the State Board of Health of Illinois. Springfield, Ill. 1883.

Announcement of the Fourth Annual Session of the Medical Department of the University of Denver, Colorada. Collegiate Year 1884–85.

Report on Ophthalmology. By William Ellery Briggs, M. D., Chairman of Committee. From the Transactions of the Medical Society of the State of California.

Proceedings of the Sanitary Conference of State Boards of Health. Held at New Orleans, La., June 2–4, 1884.

The Proceedings of the Naval Medical Society. Vol. II. No. 1. Washington. 1884.

The Medical Graduate and his Needs. By George C. Wellner, M. D. Detroit, Mich.: George S. Davis. 1884.

On the Diagnosis of Tumors of the Anterior Mediastinum. By James C. Wilson, M. D., Philadelphia. Reprint from Journal of the American Medical Association. Chicago. 1884.

The American Exhibition of Arts, Manufactures, Products, and Resources of the United States of America (London, 1886).

Diseases of the Heart and Thoracic Aorta. By Byrom Bramwell, M. D., F. R. C. P. E. With 317 Illustrations. New York: D. Appleton & Co. 1884.

Original Articles.

A CASE OF HOMICIDE BY A WOUND OF THE VULVA.[1]

BY F. W. DRAPER, M. D., OF BOSTON,
Medical Examiner.

"When deeply incised wounds are inflicted upon the genital organs of either sex, the fact of their existence in such a situation at once proves willful and deliberate malice on the part of the assailant. Accident is wholly out of the question, and suicide is improbable except in cases of confirmed idiocy and lunacy."[2] These emphatic words of Taylor will serve as an appropriate introduction to the following notes of a case whose presentation is justified by the fact that it is an interesting example of a very rare form of homicidal violence.

The chief participants in the affair to be related represented a low grade of city life and morals. Michael O'Neil, the convicted assailant, and his wife, Hannah, the victim, occupied a tenement of three rooms, so wretchedly furnished and appointed as scarcely to merit the name of human habitation. Intemperate, improvident, and ignorant, they lived here in wretched squalor, without apparent hope or desire for better things, and showing to their two young children a wicked example of shameless degradation. In such a home the mother came to her death under the following circumstances: —

During the afternoon and evening of Sunday, December 10, 1882, O'Neil and his wife, with two men, named Haley and Ryan, indulged freely in liquor in O'Neil's kitchen. The woman entertained her guests sometimes with songs, sometimes with loud disputes with her husband. In the course of one of these wrangles, O'Neil forcibly informed his wife that if she carried out her expressed intention to place one of their children in a public institution, he would "fix her for it." The carouse continued till after midnight, and the recollection of the two visitors concerning what transpired in the later hours of the evening was naturally vague and unreliable. But it is quite well established by the testimony of Haley, confirmed by that of an officer who passed by the house at midnight and heard Mrs. O'Neil singing, that between twelve and one o'clock Ryan went to bed on a mattress laid on the kitchen floor, while, a little later, Haley shared with O'Neil, his wife, and their two children his host's only bed, the woman lying across the foot of the bed and the children in the middle. What transpired during the remnant of the night could not be fully established in evidence. The occupant of the kitchen floor admitted that he was too intoxicated to be aroused by anything that occurred. Haley testified that some time in the night, while it was still dark outside, he was awakened by one of the children crying for her mother; to his question where the mother was, the reply was that she had gone out. Haley and the two children were the only occupants of the bed at this time, O'Neil and his wife having disappeared. Haley went to the kitchen to get a drink of water, and there he saw Ryan lying on the mattress; and O'Neil, dressed and apparently asleep, at full length, partly on the mattress and partly on the floor. After satisfying his thirst he returned to bed and went to sleep. Some time later he was awakened by O'Neil getting into bed. Haley asked O'Neil where Hannah was; O'Neil replied that he did n't know, he supposed that she was in the other room, that she was all right and would look out for herself. Haley then fell asleep and knew nothing more till the milkman knocked at his usual hour, between five and six o'clock. That disturbance having passed over, Haley took another nap lasting, as he estimated, about half an hour, and was next aroused by O'Neil leaving the bed; he himself arose also and went to the kitchen while O'Neil passed into a small, unfurnished room adjoining the bed-room. In a moment O'Neil shouted to Haley to come and help him, that Hannah was stiff with cold; going to his aid, Haley found O'Neil in the act of raising his wife from the floor. Her only apparel consisted of a chemise and stockings, the rest of her clothing being in a pile at the foot of the bed on the bed-room floor. The two men lifted her up from the floor and carried her to the bed. As they did so, O'Neil noticing blood on his wife's chemise and person, exclaimed, "Oh! my God! look at the blood!" He quickly covered her with the bed clothing, then said, "She must have done something to herself and I 'll be blamed for it." Haley saw then that the woman was dead, and he said to O'Neil that his best course was to notify the police at once. O'Neil washed his hands, talking much meanwhile about his inability to bury his wife, as he had no money. Ryan was now awake and joined Haley in advising O'Neil not to go to work, but to report the affair forthwith at the nearest station-house. This counsel was not taken, but O'Neil left his house and went to the wharf where he was employed. Later in the morning he called upon some of his wife's relatives (her mother and brother) to notify them of her death. He told the mother that "Hannah had done something to herself so that she should n't have any young ones," intimating, as the mother understood him, that an attempt to procure an abortion was the cause of the death. To the brother he offered still another explanation, that she died "in one of her curious spells," and that he was afraid that he would get into trouble about it.

Meanwhile the police had received information of the woman's death, and the case came at once to the writer's notice for his investigation. I found the rooms in the possession of two officers who had O'Neil and Ryan under detention pending the inquiry. O'Neil's statement was that his wife Hannah went to bed about ten o'clock the previous night. After a while he and Haley went to bed in the same bed with her and the children, his wife lying across the foot of the bed. Some time in the night, when it was he did not know, Hannah left the bed. About twenty minutes past six he was awakened by Haley, who asked him where his wife was. He looked about and found her lying on the floor of the inner room, unconscious, cold, and breathing slowly. He put her into bed and left her. He explained his abandonment of her in that low condition by declaring that he supposed her to be playing one of her old tricks of getting on the floor when she had been drinking and avowing that she was going to die. He denied all knowledge of what had occurred to her in the night, and when his attention was called to the presence of blood on her clothing,

[1] Read at the annual meeting of the Massachusetts Medico-Legal Society, June 10, 1884.

[2] Taylor's Principles and Practice of Medical Jurisprudence, i., p. 677.

he said, somewhat excitedly, "If anything 's happened to her, she 's done it herself."

I found the woman's dead body lying upon its right side in a natural posture, at the front of the bed, fully covered with the bed clothing. It was still (at half-past nine in the morning) appreciably warm; rigor mortis was present in the elbows and knees. The only personal apparel was, as already mentioned, a chemise and stockings. The lower and posterior part of the chemise was saturated with blood; and the external genitals, the nates, and the upper part of the thighs, front and back, were blood-stained. The source of the hæmorrhage was not discovered at this time.

Proceeding to inspect the adjacent unfurnished room, where the woman had been found before her removal to the bed, I saw an ordinary, medium-sized wash-tub in the middle of the floor, containing fluid and clotted blood to the amount of four quarts. On the floor, between this tub and the corner of the room nearest the door of entrance, there was a blood stain measuring thirty inches by fifteen inches, with fresh, thick clots upon it. Lying at one side of this stain were an old dress skirt and an apron much soiled with blood. Careful examination of the floor of the bed-room and of the kitchen (all the floors were bare) failed to detect any blood stains in addition to the one above described.

The autopsy was made in the afternoon of the same day, or, as nearly as could be estimated, about nine or ten hours after the death. Omitting unessential details, the following appearances were disclosed: —

The body was that of a stout, strong, though very untidy woman, apparently in vigorous health at the time of her death. There was marked pallor of the surface except upon the right side of the neck and thorax, where patches of livid discoloration corresponded with the dependent part of the body as it lay, after death, in bed during the cooling stage. There were small ecchymoses in the following situations: above the right breast, on the front of the left arm, on the front of the right wrist, just below the bend of the right elbow, on the outer side of the left forearm, on the inside of the right thigh, and on the outer side of the left knee. Along the upper surface of the lower lip, just within the dermal border, there was a broken line of narrow ecchymoses, suggesting that the lip had been tightly compressed between the teeth.

The upper part of the vulva was the seat of the only lesion from which the hæmorrhage, previously mentioned, could have proceeded. This lesion, as the specimen exhibited shows, was a wound with regular, clean-cut, slightly curvilinear edges, one inch long. Its upper extremity was immediately below the clitoris, in the middle line of the vestibule or space between the clitoris and the urethra. It took a direction downward and outward, curving slightly to the left, its lower end being a little to the left of the meatus urinarius. It was half an inch deep at the deepest point. Its course from the surface inward was not direct, or parallel with the antero-posterior plane of the body, but there was a slight beveling from the left toward the right. In a wound so superficial and limited it was impossible to demonstrate the vessels involved in the incision, but the arteries most exposed to division were the terminal branches of the right internal pudic and of the inferior vesical.

The internal examination discovered nothing noteworthy or abnormal beyond the marked anæmia of all the organs and tissues. The stomach contained half a pint of undigested food. The womb and its appendages were healthy. The mucous membrane of the uterine cavity was slightly reddened, and the right ovary contained a typical corpus hæmorrhagicum of menstruation. The vagina showed no trace of blood. The brain was healthy. The exsanguine state of the body was the single striking feature which the examination revealed.

The autopsy having thus conclusively determined the cause of the death to have been hæmorrhage from a wound of the vulva, the next and equally important stage of the inquiry had for its object to decide the manner in which the wound was received.

Was the wound an accidental one? Nothing occurred in the entire course of the investigation to lend support to such a view. A moment's reflection upon the situation of the lesion will convince one that an accidental injury at that part of the vulva is hardly to be thought of as possible. The nates, the perinæum, the fourchette, and the posterior portions of the labia majora are the regions, if any, which receive accidental violence, while the neighborhood of the clitoris could be the seat of a wound by casualty only upon the supposition of the most extraordinary posture of the body in its relation to the wounding instrument. This wounding instrument, moreover, was not discovered in the room with the blood, and the absence of blood stains elsewhere in the dwelling indicated clearly that the entire affair had its scene in this bare apartment. Finally, it is scarcely credible that a woman, injured severely, and aware that she was becoming exhausted by profuse hæmorrhage, would suffer herself to bleed to death rather than to call her husband or her female neighbors to her help. It did not appear that any hint of her distress came to any one until she was found in the morning lying in a pool of her own blood; and this failure to summon assistance is a controlling objection to the theory that an innocent casualty caused the death.

Was the injury inflicted by the woman herself with suicidal intent? Her husband so asserted, but his assertion had no support in the facts or the probabilities of the case. Experience has shown that attempted suicide by mutilation of the genital organs is a very rare occurrence, and the recorded instances are confined almost wholly to the subjects of insanity and idiocy. The person bent on self-destruction does not usually take half-way measures, or inflict upon himself injuries whose issue seems to him clearly to be open to doubt. The surgeon and the anatomist know that wounds of the vulva are particularly grave because of the vascularity of the parts and the consequent danger of alarming hæmorrhage; but no one could seriously suppose that an ignorant woman, representing the lowest grade of intelligence, would select her vulva for a suicidal wound, when a cut across her neck or a thrust into her breast offered a much more accessible and certain passage to death. The wound itself, aside from its situation, offers some difficulties to the theory of suicide, for its dimensions, its depth, especially its direction, are not easily explicable upon the supposition that the woman's own hand held the knife.

But it is clear, without regard to these somewhat theoretical considerations, that certain indispensable data are wanting if we would establish that the wounding was done by the patient herself. Obviously a

weapon or some sharp instrument was required for its accomplishment. No such weapon or instrument was found in the room. If the wounding was done in another room, and the woman then went to the room which was the scene of the hæmorrhage, or if, having cut herself in the latter room, she had then made her way to some other part of the house to hide the weapon or to destroy it, and had then returned to take her seat over the tub to slowly bleed to death, some sign of these journeyings would have appeared in the form of a trail of blood stains on the floor of the kitchen or bed-room or both; and this evidence was wholly wanting.

What, then, is left as a reasonable explanation of the wound, the hæmorrhage, and the death, except that they depended for a cause upon the act of some person other than the deceased? We must admit that all the facts in the case are in harmony with this view, and that nothing inconsistent therewith was developed in the course of the inquiry. The act of violence was not seen, it is true, by any third party; it occurred under circumstances known only to the single surviving participant in the affair, and his lips remain silent.

But it is in just such cases that medico-legal diagnosis has its greatest fascination. In a homicide, the evidence of which is complete through the testimony of eye-witnesses or the confession of the accused, there is but little to attract the medical jurist; his connection with the investigation becomes then a matter of form merely, and assumes relations of secondary importance. It is when the truth has to be sought out by devious channels, when an aggressive defense of a suspected individual puts the burden of proof most heavily on the servants of the State, when circumstantial evidence is the only reliance, and there are in reality two sides to the question, — it is in these exigencies that legal medicine has its greatest opportunity and its chief charm. The Parkman case would have lost half its interest and instructiveness if the janitor or some other person at the medical college had seen Webster strike down his victim. The famous cases of murder by poisoning are absorbing because of the doubts which they admit, and because of the manner in which those doubts are met by the tests of the laboratory, and by the close reasoning of the unpurchased expert. So, applying the ever-safe method of elimination to our examination of this vulval wound, studying its situation and direction, the circumstances which, at some distance, preceded and followed it, the data present, and the not less important data absent, the character and habits of the woman, her conduct with her carousing companions, the behavior of the husband and of his guests before and after the death of the woman, — in fine, considering all that the "view, personal inquiry, and autopsy" supplied as material for a differential diagnosis, and excluding such hypotheses touching the manner of the death as appear manifestly inconsistent with the facts, we are then in a good position to answer affirmatively the question, Was the death by homicide? The identity of the person who inflicted the fatal injury, his motive and his weapon, are matters of remote interest in their relation to the abstract question of the cause and manner of the death. They are almost exclusively within the province of the police detective, and do not concern the medical examiner except as they may supply confirmatory facts to buttress his conclusions. A brief allusion will be made to them in connection with the present case for the purpose of completing the story.

It must have been made plain in what has preceded that from the very beginning of the investigation suspicion fell upon O'Neil, the husband; indeed, he drew it upon himself by his own behavior. If he had been a cooler and less ignorant culprit he would have avoided the mistakes into which his apparent consciousness of wrong-doing led him. No one saw him in the act of injuring his wife, but the readiness, almost the eagerness, with which he tried to throw the blame of her death upon herself, his prompt avowal that he would nevertheless get into trouble on account of it, his retreat from the scene, and his frivolous excuses for doing so, — these turned attention toward him as the probably guilty agent. In harmony with these acts were certain points in direct evidence, such as the testimony that O'Neil left his bed for an interval during the night, and was discovered lying on the kitchen floor, his wife meanwhile missing; and the testimony of a woman up-stairs, that just before four o'clock in the morning she heard O'Neil and his wife quarreling, and was sure she identified the voices. Meagre as was the evidence, it satisfied the court of inquest which found O'Neil accountable, the municipal court which held him on the charge of murder, the grand jury which indicted him for manslaughter, the jury which found him guilty under this indictment, and the judge who sentenced him.

The motive for this crime is wholly a matter of conjecture. We may imagine that O'Neil and his wife, both inflammable in disposition, as the previous evening's events showed, found some cause for a quarrel after their guests had been disposed of for the night. The previous criminal relations of the woman with one of the men then enjoying her hospitality suggests that the use and abuse of the sexual organs may have been the theme of dispute. We may imagine that, as an outcome of the dispute, whatever its subject, O'Neil suddenly resolved to mutilate his wife in a way that should teach her a salutary lesson. It is not necessary to assume that he meant to injure her seriously, far less to wound her fatally; his purpose, probably, was chastisement only. His guests were deep in the sleep of drunkenness, or so appeared, and he himself was sufficiently alcoholized to render him more reckless than delicate in his cutting. We can suppose that the woman, finding herself hurt about her genitals and bleeding freely from the wound, took her seat over a convenient wash-tub, expecting, as one attacked with epistaxis expects, that every minute would see the spontaneous subsidence of the flow. Her husband having been her assailant, she would not call for his help, as she would have done very naturally if either of the other men had injured her. So, bleeding to syncope, as she sat on the tub, she at length fell to the floor, and presently died. Meanwhile the husband, not realizing the extent of his violence, and anxious not to awaken his bed-fellow, sought rest on the kitchen floor, where he was seen by Haley. Later, when all was quiet, and he felt quite certain that he could move about without disturbing any one, he resumed his place in bed, and remained there till the morning brought its sanguinary revelations.

The instrument, like the motive for its use, was almost wholly a matter of speculation. A knife was introduced in evidence at the trial, and the medical witness readily testified that it might have made the

wound of the vulva. This knife was identified as O'Neil's; Haley had seen him cutting tobacco with it during the afternoon of their carouse. It was a knife such as a shoemaker uses for trimming soles; it had a blade about four inches long, which had become somewhat concave at its edge by long use and repeated grinding, but its rounded point was well sharpened. This blade was fixed firmly in a wooden handle. This weapon, if such it was, was found secreted behind a looking-glass in the kitchen, on the morning of the woman's death. It was given by the finder to another woman, who placed it in her stove for safe keeping over night. A fire was made in the stove by a third person, who had no knowledge of the contents of the oven, and the consequent baking and charring destroyed all evidence of blood-stain, if any existed. The person who found the knife testified that it was clean and bright when she first saw it.

But it will be proper to ask if such a wound necessarily implied the use of a knife to produce it. May not the lesion have been a contused wound, the result of a kick, the blow being received in such a direction and situation as to cause a solution of continuity simulating an incision. It is well known that the appearances of a cut may be closely imitated by a smart blow from a blunt instrument upon soft parts overlying bone, and cases are not wanting in which a wound of the vulva produced by a kick or a fall has given rise to grave doubt whether or not a weapon has been used.[1] While admitting the possibility of fatal hæmorrhage from a contused wound of the pudendum, and even granting that a kick with the shod foot might divide the tissues and leave something of the appearance of a cut upon them, it must nevertheless be insisted that the vertical direction of the lesion in the present case, its clean-cut, regular edges, its smooth inner surfaces, the absence of swelling and of ecchymosis in the adjacent parts, are quite strong points of proof that a cutting rather than a blunt instrument was used.

But however wisely or wildly we may speculate upon questions whose solution is difficult or impossible through a want of satisfactory data, the most important feature of the case remains well-founded, as an instructive medico-legal fact, and it is to this that I give the concluding word. This is the material and significant reality that within the space of five hours (taking outside limits of time) a strong, plethoric, and healthy woman bled to death by a wound of the vulva an inch long and half an inch deep. Such an occurrence, if standing alone as one observed for the first time, would be regarded as extraordinary, perhaps as incredible; but it is fortunate in being in accord with similar observations recorded in surgical and medico-legal writings. It is really a typical example of an interesting class. Ogston[2] quotes the case of a woman who died in ten minutes after receiving two wounds about the genitals, one on the left labium and the other at the entrance of the vagina at its upper part; the fact that she was pregnant, and that the vascularity of the parts was thus increased, may have had some influence upon the rapidity of the hæmorrhage. Taylor[3] alludes to the case of a woman, eight months pregnant, who "fell from a chair, which also fell with her. There was hæmorrhage, and she died in a quarter of an hour. The blood had flowed from a wound an inch and a half long, situated between the right labium and the urethra." In another case[4] "a contused wound of the clitoris proved fatal. A woman, aged thirty-six, received a kick from her husband in the lower part of the abdomen while she was in a stooping posture. When seen, in about three quarters of an hour, she had lost from three to four pounds of blood; she was sinking, and expired a few minutes afterward. The wound was at the edge of the vulva, extending along the ramus of the pubes; it was about an inch long and three quarters of an inch deep. The left crus clitoridis was crushed throughout its length." These cases are of use in teaching the medical witness that, whether in the presence of a jury or elsewhere, he should be economical in the use of terms like "impossible," or "incredible," or "inconceivable."

[1] Taylor's Principles and Practice of Medical Jurisprudence, i., p. 678.

[2] Lectures on Medical Jurisprudence, p. 486.

[3] Principles and Practice of Medical Jurisprudence, i., p. 677.

[4] Lancet, October 31, 1846, p. 478.

A CASE OF ACUTE HEMIPLEGIC CHOREA; WITH AUTOPSY AND REMARKS.

BY RALPH M. CANFIELD, M. D., AND JAMES J. PUTNAM, M. D.

THE following case is, from several points of view, one of unusual interest: first, as being a typical example of a comparatively rare affection, unilateral chorea in the adult, traceable to a distinct organic lesion in the brain; then, because it is remarkable that this lesion — involving, as it did, a portion of the crus cerebri — did not give rise to paralytic symptoms of more pronounced character; and, finally, because of the points in diagnosis and treatment to which it calls attention.

The patient was a man of fifty-nine years, of large frame, and of robust type. For the past fifteen years he had been quite intemperate, and this habit had grown upon him, until for the past eight months he had taken daily six or eight potions of best rye whiskey, with now and then a spree of two or three days' duration. Otherwise his life had been an average one, and his family history is one of peculiar longevity, with no cerebral or other marked diseases. His wife says that for a year past he has been more irritable than formerly.

For some weeks previous to the onset of serious symptoms his family had noticed choreic movements in his right arm and leg, and for the last week a slight dragging of the leg. In ascending stairs, however, he had used his feet equally well, so that there could not have been any paralysis in consequence.

On August 5th his wife came to ask medical advice, and gave the above history, adding that the movements had become more violent and constant, but that they ceased entirely during sleep. The previous night, however, sleep had been impossible. The patient was ordered twenty grains each of bromide of potassium and hydrate of chloral, which gave him a comfortable night. The next day he was examined carefully and the following condition noted, which remained without essential change until shortly before his death: —

The right arm and leg were found to be in violent and constant motion of a distinctly choreic type, but involving the muscles of the larger joints — hip, shoulder, etc. — even more than those of the smaller.

The face was apparently still, but the articulation was nevertheless somewhat thick. At times the right

side of the face seemed to move less well than the left, but the tongue was protruded straight. The movements increased in violence when any attempts were made to use the limbs, and although the patient declared himself unable to check them by voluntary effort, yet it was striking to observe how, if the arm were drawn quietly to the side and the patient strictly enjoined to lie still and close his eyes, the movements would cease for a moment and the patient sink into a half sleep.

No diminution of gross strength could be observed in the affected arm or leg. The knee and ankle reflexes, which were normal on the right side, were wholly absent on the left. The plantar, cremaster, and umbilical reflexes were absent on both sides. The sensibility to the prick of a pin seemed less over the affected side, though this may have been due in part to the engrossing influence of the movements. No finer tests were possible. The patient complained of no pain or sense of numbness, but said the skin felt sore or raw, as if flayed, over the right arm and leg.

His intellect was slightly clouded, but at times, when aroused, he seemed quite rational.

The surface temperature of the right arm and leg was markedly higher on the right side, but perhaps not more so than could be accounted for by the constant motion. Still, these parts had a turgid feel, and the skin over them, as well as that over the right side of the face, was slightly reddened. There was no change in the acuity, or field of vision, nor in the movement of the eyes. Pulse full and strong; somewhat tense. Respiration normal. Heart not enlarged; sounds normal.

In spite of the movements the patient was able to walk across the floor to the bath-room without help. Micturition voluntary.

The temperature at this period was normal, or slightly elevated (99.5° F.); but in the last days of the patient's life it ran up to 102° F., the pulse and respiration becoming at the same time rapid and feeble.

The bromides, chloral, morphia, and valerianate of zinc were given in full doses, at different periods, to check the movements, but as they failed to do so satisfactorily the fluid extract of conium was substituted. Sixty minims of this were given the first day, and the dose was gradually increased until, on the third day afterward, he took six drachms in twenty-four hours. Then for the first time the characteristic effects were seen, namely, paresis, first of the eyelids, soon afterward of the arm, and later of the leg. The conium was then discontinued for the time.

The next day he seemed quite comfortable and took a generous diet, including milk punch, beef peptonoids, eggs, chicken, etc. The involuntary movements had almost ceased, and he slept quite naturally during the night and somewhat during the day.

On the following day the movements reappeared. The conium was again commenced and carried up to full doses with but very little, if any, effect, and six days later (August 19th) Fowler's solution was substituted. Twenty-four minims in the twenty-four hours were given at first, and the dose was gradually increased until, on August 22d, he took forty-eight minims, which produced the characteristic symptoms of puffing of the lids, etc. The effect of this seemed to be beneficial, but it had been evident for some time that the patient had been failing in both mind and body, and was now nearing his end.

On August 23d the pulse became small and weak, the temperature began to go up, the respiration became frequent and hurried, and his exhaustion increased rapidly. The stimulants were increased, but the system failed to respond. He became semi-comatose, and died August 25th, having been unconscious for the previous twenty-four hours.

On the day before his death the respiration numbered fifty-two and the temperature was 102° F. On the morning of his death the respiration had reached ninety-two.

The autopsy was performed forty-eight hours after death. As the weather was warm the abdominal organs had become somewhat discolored and decomposed, rendering it difficult to affirm the presence or absence of finer changes of structure in them. The brain, however, was well preserved, and we shall confine our report to that, as being manifestly the seat of the disease.

Calvaria rather dense, but of even thickness and without erosions; dura unusually adherent in spots.

Dura normal, sinuses nearly empty of blood.

Pia not at all, or but slightly, opaque; contains a moderate amount of fluid in its meshes. No marked atrophy of convolutions. Vessels contain but little blood. About one ounce of nearly clear fluid left in skull after removal of brain.

Vessels at base of brain excessively atheromatous, the larger ones not collapsing at all when cut across. The lumen of some of the vessels is materially encroached upon by this degenerated tissue, which is separable in large flakes. All exposed vessels examined for plugging, but none found.

Ventricles of brain essentially empty.

Cut surface of hemispheres pale; ciings to section knife; no puncta cruenta; gray matter everywhere ill-defined.

Parallel frontal sections[1] were next made through the brain from before backward at intervals of about half an inch or less. No lesions were seen until the cut passing through the base of the anterior transverse convolution and the anterior extremity of the nucleus lenticularis was reached.

Scattered over the cut surface of the latter ganglion, in the *left* hemisphere, were several minute, brownish spots of softening, two or three millimetres in diameter, not involving the capsula interna. In the corresponding ganglion of the *right* hemisphere, one or two similar spots were seen, and another, somewhat larger, in the white substance just above the nucleus lenticularis, and just at, or outside, the limits of the capsula interna, strictly speaking.

One or two similar spots of softening were seen on several subsequent sections, but they were confined to the nucleus lenticularis except at one spot, in the left hemisphere, where a portion of the capsula interna adjacent to a spot in the upper edge of the nucleus lenticularis seemed a little softened. Some of the spots were rather linear than round, and evidently marked the course of vessels, although no distinctly thrombosed vessel were seen.

Up to this point both hemispheres had been nearly equally affected (the left, to be sure, the most), but the next and largest lesion involved the left side alone. This was first seen on the cut dividing the crura cerebri just after their emergence from the brain, as a dark brown spot about two millimetres in diameter, at the

[1] After the manner of Pitres.

junction of the middle and outer third of the pes cruris, a little below the substantia nigra. Careful examination subsequently showed that this spot was the lower edge of a mass of somewhat softened and partially necrosed tissue, of the size of a large pea, though of more oval shape, and with its long diameter passing obliquely inward and upward through the inner half of the crus. The substantia nigra was involved, and the neighboring portions of the tegmentum cruris, but the lesion did not penetrate the thalamus opticus, which appeared healthy on all sections. The only ganglionic matter involved besides the substantia nigra was (probably) the so-called ganglion of Luys. In other words, this collection of diseased tissue lay in the inner half (mainly in the inner third) of the crus cerebri opposite the posterior portion of the thalamus. It involved the substantia nigra, together with the pes cruris beneath, to the depth of five or six millimetres, and the tegmentum above almost to the centrum rubrum. It was bounded behind by a (frontal) plane drawn through the posterior edge of the corpus candicans, and in front by another plane nearly one centimetre in advance of this.

The diagrams given by Meynert at page 694 of Stricker's Handbook of Histology (American edition), and by Wernicke at pages 64 and 66 of his Lehrbuch der Gehirnkrankheiten, indicate very well the level of the lesion.

Cerebellum, pons, and medulla oblongata were normal, except that, like that of the rest of the brain, their tissue was very anæmic.

Microscopic examination of the softened tissue in the crus, as well as of the minute spots in the nuclei lenticularis, showed them to consist of disintegrated brain tissue, masses of granular bodies and granules of free fat, and occasional crystals of hæmatoidine. The walls of the smaller vessels contained masses of pigment, and their sheath was often crowded with granular bodies. The cells of the substantia nigra in the affected part were also seen to be in every stage of degenera tion. Some of them were still recognizable from their pigment, while others had evidently lost their pigment, though still of characteristic size and shape.

The mode of onset and the progressive course of the disease in this case, — the clouding of the mental functions, the disappearance of the reflexes, the slight unilateral impairment of sensation and motion, — marked it, even before death, as being probably of organic origin, and to be ranked with the so-called pre- and post-hemiplegic disorders of movement. Nevertheless, before inquiring into the physiological pathology of the chorea in its relation to the lesions actually discovered, it is important to bear in mind that equally violent and exactly similar movements are capable of coming on, and lasting for long periods, without the influence of any gross lesion whatever.[1]

A knowledge of this fact ought surely to make us careful *what rôle* we assign to the hæmorrhages and softenings that have been observed in cases like that before us, though it does not in the least impair the value of the many observations, which show, on the whole, a remarkable constancy in the seat of the majority of the lesions with which these disorders of movement, *so far as they have been of organic origin*, have been found to be associated.

It is unnecessary to review the history of this subject at any great length.

These disorders of movement were first called attention to by Mitchell, in 1874, and by Charcot at about the same period, under the name of post-hemiplegic chorea, and since then have especially engaged the attention of many observers.

The investigations of Gowers[2] have made it clear that there is a whole family of symptoms of this class, embracing the post- (and pre-) hemiplegic chorea and the athetosis of Hammond, as well as a variety of intermediate forms, characterized by slow or quick, regular or irregular movements, some of them occurring only in connection with voluntary motions on the patient's part, others spontaneous or (as in the present case) only exaggerated during voluntary efforts.

Almost invariably these disordered movements are associated with incomplete paralysis either in the progressive or the regressive stage, but occasionally they occur without paralysis, and in one case a totally paralyzed limb has been reported to be the seat of the spasmodic movements. (Bernhardt.[3])

The different members of this family of symptoms are certainly closely related, since it sometimes happens that in the history of a single case several of these different forms of movement are successively or simultaneously present.

We must wait until more is known of the anatomy and physiology of the central nervous system, and until a larger number of autopsies have been made, before we can satisfactorily discuss the physiological pathology of these interesting phenomena.

Judged from the standpoint of gross anatomy, the bulk of the evidence points to the thalamus opticus and its immediate neighborhood, especially the region supplied by the posterior external thalamic artery, as the favorite seat of the lesion,[4] and here it was found in the case before us, as well as in the similar one recently reported by Greiff. (Vide below.)

Significant as this fact is, however, it cannot be taken as proof that the symptoms are always due to a disordered action of that ganglion, for in other cases the apparently effective lesion has been found in the nucleus lenticularis, the capsula interna, the pons and medulla, the cortex cerebri, and, finally, it has been shown that similar symptoms may occur without any gross lesion whatever (see above), as in the chorea of children.

Although we cannot assert the cause of these symptoms, we can say that the explanation offered by a number of observers (Kahler and Pick, Démange, Greiff,[5] and others), that they are due to a direct irritation of the great motor tracts of fibres running from the brain to the spinal cord, is anatomically and physiologically improbable, and that it has really only its apparent simplicity to recommend it. Were this explanation correct, then lesions of these tracts at any part of their course should have this effect, whereas, in fact, it only follows lesions at or above the level of the medulla oblongata.

This is a significant fact when we remember that these are the lowest stations which contain coördinating arrangements of any complexity. Furthermore, it is

[1] Thus see Kirchhoff, Arch. f. Psychiatrie, etc., xiii., p. 582.

[2] On Athetosis, etc., Med.-Chir. Trans., vol. lix., 1876; and Brain, 1878.

[3] Berl. kl. Wochenschr., 1875, No. 35.

[4] See the analysis of cases by Kahler and Pick; Beiträge zur Pathologie, etc., des Centralnervensystems, 1879; also Grasset, Maladies du Système Nerveux, p. 219.

[5] Arch. für Psychiatrie, etc., Bd. xiv., p. 598. This observer reports with great thoroughness a case closely resembling our own both clinically and pathologically.

noteworthy that no experimental excitations below the level of these organs are capable of causing generalized convulsions in animals. (Nothnagel.)

In other words, it would seem that the efficient factor is the irritation, not of the motor tracts of fibres, but of the ganglia lying near them.

It is true that many of the lesions found in these choreiform cases are in such a position that they *might* irritate the motor tracts. This is true also of our case. But so also there are other disturbances which these lesions might, and indeed must effect, and chief among them is the damaging of the associating tracts between the various cerebral centres, with which the direct motor tracts in the cerebral portion of their course are everywhere interlaced. This is, physiologically, almost equivalent to an injury of the centres themselves.

In our opinion, the most natural way of regarding these choreic movements is to suppose them produced in disease by similar means to those which would produce them in health.

There are various coördinating ganglia in the brain which, in health, probably act sometimes together, sometimes separately, in the production of coördinated movements. In disease these same ganglia are also sometimes set in action, but by some other than the normal mode of excitation, and in such a manner that the results of their activity suggest the motion of a machine, of which the parts are out of gear or the balance-wheel destroyed. Why lesions in or near the thalamus opticus should be especially prone to produce this result cannot be explained.

In whatever way the motor-coördinating apparatus is called into this uncontrolled activity, the movements which come to the front are probably those expressing the average mode of activity of the ganglionic masses concerned, that is, they are movements of most habitual recurrence; and it is therefore not remarkable, that cases with different lesions, and with lesions in different localities, should bear a certain likeness to each other. Neither can we agree with Nothnagel in regarding it as improbable that similar lesions should give rise now to slow and regular, now to quick and irregular movements, unless, indeed, we deny that the individual himself makes use of one and the same nervous centres for movements of these different grades, a position which could not be maintained.

The case before us could not, to be sure, be used as an argument against the view of Kahler and Pick and Démange, since the lesion bordered closely on the motor (volitional) segment of the crus cerebri (the middle third), and even encroached on it to some extent. The bulk of the lesion, however, lay partly in the inner third of the pes cruris, partly in the fibres of the tegmentum, and it is this latter part of the lesion which, reasoning from the other cases reported, we suspect to have been the really efficient factor. It is not to be forgotten that there were several very small patches of softening in the nucleus lenticularis. Their influence in the result is problematical; but from the fact that they were present to a nearly equal degree on both sides, it is not probable that they caused the purely unilateral choreic symptoms. Possibly the injury done to the substantia nigra, which receives fibres from the nucleus lenticularis, and discharges others into the pes cruris (Wernicke), may have played its part also in the result.

At all events this case is certainly to be ranged with the now considerable number of those in which the region supplied by the posterior thalamic artery has been found diseased, a fact for which at present no explanation can be given.

THE CASES OF THE SURVIVORS OF THE LADY FRANKLIN BAY EXPEDITION.

BY EDWARD H. GREEN, PAST ASSISTANT SURGEON, U. S. N.

As a preliminary to a medical history of the cases of the survivors of the Lady Franklin Bay Expedition, it is well to give a brief *résumé* of their mode of life at Camp Clay, their quarters, rations, etc., so as to better appreciate the condition in which they were found.

On September 29, 1883, Lieutenant Greely landed with his party at Baird Inlet after thirty days' exposure drifting on an ice-floe. The record left at that time stated the *party was all well*. Having sent an advance detachment ahead, it was found and reported that a *cache* of provisions existed at Cape Sabine (fifteen miles farther to the northward than he was at this time); it was deemed expedient to move the whole command up to that neighborhood, rather than send for the provisions and winter at Baird Inlet. Finally, on October 25th, they moved around to a point between Cape Sabine and Cocked Hat Island (latitude 78° 45′ N., longitude 74° 15′ W.). The site of their winter quarters was sheltered between high ridges of mountains, which screened them in a measure from the northerly and southerly winds. A glacier was situated at the foot of the mountain on either side of them about a mile distant. They constructed a house of loose rock and moss, the walls being three feet in thickness; the roofing consisted of old canvas stretched over a boat; the dimensions of the house were twenty-five feet long, seventeen feet wide, and four feet high, making the cubic air space 1,700 feet. In this the twenty-five members of the party lived all winter, having a cubic air allowance of about seventy feet for each man. The whole party could barely squeeze in and lie at length, two or three being obliged to occupy the same sleeping bag; the effect of this diminished air space will be seen later on. Their hut was but one hundred yards removed from the ice-foot of the Sound, and two hundred yards to the south of them was an artificial lake, from which they drew their water supply by melting ice. As the sea water strained into this lake, they were drinking brackish water all the while.

On November 1st Lieutenant Greely took a careful account of his stock of provisions, and found there was but a whole ration for each man (estimated as an army ration, about forty-six ounces solid food per diem) for forty days. Dr. Pavy and he advised together, and it was with some reluctance that they determined to divide up the rations so as to make them last until March 1st, putting aside from time to time, so that at the end they would still have ten days' supplies left with which to attempt the trip to Littleton Island if the straits were frozen over. Dr. Pavy did not think the party could exist on the ration during the winter, but the common voice was to make it go as far as it would, so each man was given the following daily allowance: —

Meat and blubber	4.33 oz.
Bread and dog biscuit	6.5 "
Canned vegetables and rice	1.4 "
Butter and lard	.75 "
Soup and beef extract	.90 "
Berries, pickles, raisins, and milk	1 "

making the daily allowance for the four months 14.88 ounces. During the winter the following amount of game was secured, which added to their stores: two seals, yielding about 120 pounds of meat; one bear, yielding 300 pounds of meat; eight foxes (four pounds each), and sixty dovekies (Uria Brünnichii), a small bird weighing about a pound.

March 1st found the party intact, with the exception of Sergeant Cross, who died in January with well-marked scorbutic symptoms, the only case of pronounced scurvy that developed; and Hans, their Eskimo hunter, who was lost in his boat while hunting seals early in February. The straits having been kept open during the winter by a succession of violent gales, the attempt to cross to Littleton Island had to be abandoned, and their ration was still further reduced to the following allowance: meat, 6.8 ounces; bread and dog biscuit, 3.2 ounces, — the rest of their stores being exhausted. The stores were divided up so as to last until May 12th. The sun had returned by this time, after an absence of 128 days, and those employed as hunters caught the sea fleas, or shrimp, a small crustacean, one eighth to one fourth inch long, consisting of about four fifths shell and one fifth meat. From one to three ounces of these a day, according to the catch, were allowed in addition to the ration. After the last reduction, the party began to weaken and die off rapidly.

About the 24th of March the whole party was overcome with asphyxia and nearly lost their lives, owing to the atmosphere being surcharged with carbonic acid. They had lit their alcohol stove in the hut to cook a meal, without previously having removed the rags from the vent-hole in the roof; the remaining oxygen of the air was soon consumed by the stove, and the whole party were seized with faintness, vertigo, and dyspnœa. It was with the greatest difficulty they struggled from their sleeping-bags, and stumbled and were helped into the open air, many fainting away and dropping unconsciously after reaching the opening; being poorly clad for a temperature such as prevailed outside at the time (— 46° F.) many were frost-bitten. The after effects of this mishap remained for a long time and weakened many of them.

After May 12th everything like a regular ration was exhausted, and they struggled on as best they could, catching the shrimp (which they boiled), gathering reindeer moss, which, when boiled, yields a mucilage, similar to Iceland moss, and boiling up the seal-skin linings of their sleeping-bags from which a gelatinous moss was extracted. It was not till they had exhausted the supply of moss around the camp that they gathered the black lichen (*crêpe de la roche*) growing on the rocks, and boiled that. Dr. Pavy urged strongly against its use, as he had the authority of Kane and Hayes that when eaten it would produce a diarrhœa which, in their weakened condition, would be fatal. They had no fuel for artificial warmth, and barely sufficient to allow for melting the ice for procuring drinking water and to cook a meal every other day, so that the living temperature of the hut for the winter was from 5° F. to 10° F.

The recognized the fact that the nearest they could approach a state of hibernating, the better were their chances of getting through. Only those employed as cooks and hunters exerted themselves much, and they were given a double ration; the rest of them occupied their sleeping-bags, and slept sixteen to eighteen hours out of the twenty-four. In answer to complaints of hunger, Dr. Pavy's motto was, "*Qui dort, diné;*" which was philosophical, without being filling.

There seemed to be but little acute suffering from the lack of food. It was only after the introduction of food into the stomach that the craving became great. For days they went without food without actually suffering; the deaths seemed to take place finally from heart trouble (*hydrops pericardii*); the feet and face became œdematous; for a day or so the individual would complain of pains over the heart, have a spasm of pain over præcordia, a slight general convulsion, and all would be over. Their chief suffering during the winter was from constipation. Many went eight to ten days without a stool, and one as long as sixteen days; the fæces became so hardened and impacted in the rectum that at each operation they were obliged to dig the fæces out with their fingers, the abdominal muscles being too weak to extrude the mass. Nearly every one would faint, after having a stool, from sheer exhaustion.

When it is considered that for nine months they were on the ration as detailed, had nothing but brackish water to drink, no artificial warmth, living in a temperature of 5° F. to 10° F. for the winter, with a cubic air space of seventy feet per man, the condition in which the survivors were found will not be wondered at. There were but seven out of the twenty-five found alive; these were: A. W. Greely, first lieutenant U. S. A.; Henry Beiderdick, hospital steward; D. L. Brainard, sergeant U. S. A.; Thomas Connell, private U. S. A.; Joseph Ellison, sergeant U. S. A.; Julius Fredericks, sergeant U. S. A.; Francis Long, sergeant U. S. A. The four first mentioned were taken on board the Flagship Thetis, and placed under my care, and with them this paper will principally be concerned.

On landing at the camp, the condition of the party was so desperate that a delay of two hours was necessary to restore them sufficiently to permit their being removed on stretchers to the boats and taken off to the ships. Thomas Connell, private, was "in extremis," was pulseless, unconscious, and unable to swallow, limbs cold, and respirations barely noticeable; auscultating over the heart, the sounds were heard very indistinctly. By propping him up, forcing open the jaws, a teaspoonful of brandy was slowly poured into the back of the throat. The effect of the stimulant was soon noticeable, as a faint pulse appeared at the wrist; in ten minutes he could make an effort to swallow, when more brandy was administered, followed by some warm condensed milk at intervals. The rest of the party were served with brandy, milk, and beef essence, and finally transported to the ships.

The time and space would hardly be allowed me to give more than a brief detail of the cases; and as they closely resembled each other both in symptoms and treatment, I will confine myself to the case of Lieutenant A. W. Greely more particularly, alluding to anything peculiar in the other cases.

June 22d, eleven P. M. A. W. Greely, lieutenant United States army, aged forty. Disease, asthenia. On admission fainted, after being carried below, in the ward-room, and vomited. Administered ammonia spts. aro-

mat. m. x., renewed in ten minutes; placed in the berth; given a teaspoonful of raw fresh beef, minced; his clothes were carefully cut off, and heavy red flannels, previously warmed, substituted.

On examination his body emitted a sickly, offensive odor, as of stale urine; emaciated to a degree. Skin hanging from limbs in flaps; face, hands, and scalp blackened with thick crust of soot and dirt (had not washed or changed clothing for ten months).

Nervous system: Excitable and irritable. At times almost irrational, eyes wild and staring; insists on talking, craving news, and demanding food; complains of no pain.

Digestive system: Tongue dry and cracked; heavy brownish black coat; ravenously hungry; abdominal cavity empty, and lying almost in contact with vertebral column; no movement of bowels for six days; liver, dullness on percussion, confined to right hypochondriac region.

Respiratory system: Respiration 12 per minute; auscultation and percussion reveal no abnormal condition of lungs; vesicular murmur puerile.

Circulatory system: Pulse 52, soft and compressible; auscultation shows marked murmur (blowing) in systole over base of heart.

Integumentary system: Skin cold and clammy, sickly odor emanating from it, shriveled and sallow. Temperature 97.2° F. (under tongue).

Locomotor system: Great muscular waste; unable to move or stand without support. Body, weight 120 pounds. Weight before leaving Fort Conger in August, 1883, 168 pounds.

Urinary system: No specimen obtainable.

Treatment: From eleven P. M. till eight A. M., alternating every half hour, teaspoonful of raw fresh beef, minced, with teaspoonful of milk punch. Enjoined strict quiet. Pulse then rose to 60 per minute, soft. Temperature 97° F.

June 23d. Nervous system: Mind still active and restless; compelled to allow him some home letters to read, after which became more composed; has not closed his eyes; talks rationally, but shows loss of memory, as often repeats himself.

Digestive system: Had a small, highly offensive stool; felt quite faint afterward; passed considerable wind from bowels; abdomen tympanitic; tongue still dry and coated.

Circulatory system: Pulse slightly stronger, 60 per minute. Respiration 12 per minute.

Integumentary system: Same offensive odor. Temperature: A. M. 97.8° F.; P. M. 98° F.

Locomotor system: Still unable to raise himself up without help; muscles very soft and flabby. Some stiffness and pain in the joints.

Urinary system: Urine passed in twenty-four hours. 1630 cc., specific gravity 1014, acid, highly albuminous ($\frac{1}{10}$ tube).

Treatment: Continue raw fresh beef at intervals of an hour with a raw onion, finely cut up, added; also milk punch one ounce every two hours; no medication.

June 24th. No sleep; mind more tranquil, but too active; great desire to talk and read; less persistent in demanding food; complains of soreness in limbs; tongue presents a moister appearance; bowels slightly distended with gas; no stool; pulse 62, not so thready; heart sounds stronger, still a pronounced anæmic murmur; blood examined microscopically shows large increase of white corpuscles, at first the field ($\frac{1}{10}$ objective) appeared filled with the nucleated corpuscles; close examination showed the proportion to be about one to twenty red; the red corpuscles show but little disposition to cohere and run into "*roleaux*," and lacked the distinctive biconcave disk shape; edges full and round (not ragged); urine passed in twenty-four hours, 1660 cc., highly albuminous; no casts revealed by microscope; skin clammy, dirty mottled yellow; temperature: A. M. 97.6° F.; P. M. 98° F.; muscles sore; slight œdema of hands and ankles.

Treatment: Sponging with tepid water, afterward briskly rubbed with flannels and a little lin. sapo.; small quantity of oatmeal, thoroughly boiled, four ounces allowed in morning; beef essence Liebig's ℥i. in hot water every four hours; continue scraped beef and onion; no medication.

June 25th. Marked improvement; mind more tranquil; talks quietly without excitement; slept two or three hours naturally; awoke refreshed; tongue beginning to clean; had a large, dark semi-solid stool, odor offensive in the extreme; evidently but little biliary secretion poured into alimentary canal; pulse 65, some strength; respiration 14, principally costal; skin losing clammy feel; emanations still sour and offensive from it; temperature: A. M. 98.2° F.; P. M. 98° F.; muscles sore, ankles puffed.

Treatment: Shampooing muscles with dry cloths; no change in diet; no medication.

June 26th. Allowed to sit up in bed and read a little; slept six hours soundly during the night; mind tranquil; has a loss of memory of words; tongue cleaning, still heavy coat at the back; bowels moved twice; stool pitchy and offensive; abdomen tympanitic, considerable borborygmus. Pulse 65; heart sounds stronger, murmur still pronounced. Urine passed in twenty-four hours 1800 cc., specific gravity 1016, albumen not decreased; no change in condition of skin. Temperature: A. M. 98° F.; P. M. 98.8° F.

Treatment: Sponging and friction; same dietary with tr. ferri muriat. five c. c. t. i. d.

June 27th. Still extremely weak; voice stronger; mind easier; amnesic aphasia marked; appetite still morbid, always hungry; considerable flatulency; no stool. Aspect of skin somewhat improved in appearance, still dirty yellow (no spots). Temperature: A. M. 98.4° F.; P. M. 98.8° F.; pulse 66; respiration 14. Urine albuminous ($\frac{1}{12}$ tube), 1950 cc. in twenty-four hours, specific gravity 1018. Muscles beginning to fill out; very soft.

Treatment: Dietary increased to eight ounces broiled steak in morning; continued tr. ferri muriat.

June 28th. Gaining strength; dressed and sat up for a couple of hours, then felt exhausted and returned to bed. Mind quite tranquil; slept well; appetite still morbid; bowels moved; no change in character of stool; liver still inactive. Pulse 66, fairly good tone; anæmic murmur not so marked. Temperature: A. M. 98.2° F.; P. M. 98° F. Urine passed in twenty-four hours 1860 cc., specific gravity 1018; albumen present.

Treatment: Takes food at five stated intervals: six A. M., oatmeal, four ounces, broiled steak, eight ounces; ten A. M., Liebig's beef essence, one drachm in teacup of warm water; two P. M., one soft-boiled egg, with milk toast; six P. M., raw minced beef and onion; ten P. M., Liebig's essence of beef. Continue tr. ferri muriat., six c. c. t. i. d.

June 29th. Dressed and assisted to walk in ward-room a few steps. Muscles soft, very weak; limbs fill-

ing out; body weight, 129½ pounds (gain of nine and one half pounds for the week); pulse 68; urine 1650 cc. in twenty-four hours, albumen less; temperature, A. M. and P. M., normal; bowels moved naturally, stool still pitchy and offensive.

Treatment: Continue the same.

June 30th. Sleeps naturally, and awakes refreshed; allowed to read and talk; walks around for an hour or so with support; limbs filling out; feet œdematous toward night; appetite still morbid, unable to be satisfied with his allowance; good movement of bowels; albumen disappearing; heart sounds stronger; temperature normal. Continue restricted diet and iron.

July 1st. Felt quite refreshed on awaking; had slept well during the night; enjoyed morning meal, and ate without asking for more; as the sun was shining brightly, was assisted on deck, and sat in the air, well bundled up, for an hour; had but little appetite for midday meal. At four P. M. a small, dark, offensive stool; strained considerably, and was much exhausted afterward (nearly fainted). Administered spts. frumenti, half ounce, in aqua, at six P. M. Complained of severe pains in abdominal muscles and over the region of the liver (pains resembling hepatic colic); considerable febrile disturbance; pulse 98; temperature 100.2° F. Administered quin. sulp., at eight P. M.

July 2d. Feels much prostrated and weak; muscular pains and soreness over abdomen and back; complexion sallow; appetite poor; temperature: eight A. M. 98.8° F.; twelve M. 99° F.; four P. M. 99.2° F. Exhibited hydrang chlorid. mit., three cc., at eight A. M. Repeated dose at two P. M. Bowels moved three times; last evacuation watery; felt weak, but free of cramps; headache disappeared. Light diet of oatmeal and milk. Discontinued tr. ferri muriat.

July 3d. Still weak; muscular soreness over abdomen; no sharp pains; two loose evacuations from bowels; appetite returning; pulse 68; temperature normal; whiskey toddy, half ounce, t. i. d.

July 3d. Considerable improvement; pains have disappeared from muscles; tongue cleaner; complexion better; allowed to sit up to his meals; urine much improved, albumen ($\frac{1}{50}$ tube) specific gravity 1022; resume tr. ferri. muriat.; also vin. Portense ℥i. t. i. d. before meals.

July 4th. Gaining strength gradually; muscles soft; knees weak; encouraged to take some exercise daily, weather permitting, in the open air; digestion good; appetite under better control; liver still torpid; regular movement of bowels; skin clearing; lost clamminess; sleeps well; continue same. From this time forth gradual improvement; blood again examined microscopically shows marked diminution of white corpuscles. On July 8th no albumen found in urine. On July 12th anæmic murmer very indistinct. On July 17th arrived at St. John's; condition sufficiently to warrant his going ashore for exercise; muscles still weak and sore; filled out rapidly.

July 19th. Had a slight attack of intestinal indigestion; was living ashore at the consul's, and committed an error in diet; suffered for two days.

July 25th. Allowed to eat three full meals daily, with certain articles restricted; encouraged to exercise in open air. On the trip from St. John's to Portsmouth, N. H. (July 26th, August 1st), ran into damp moist weather; felt much prostrated, and muscles ached; given quin. sulp. 18 cc. every night during the passage. On being transferred at Portsmouth, his body weight was 169 pounds, representing a gain of 49 pounds in six weeks: 9½ pounds first week, 15 pounds second week, 8 pounds third week, 7 pounds fourth week, 5½ fifth week, 4 pounds sixth week.

Remarks: Vital depression as exhibited by the tempt. not marked; digestion fairly good all the time; nervous system soon calmed; microscopic examination of blood disappointing, exhibiting no unhealthy character of red blood globules; albumen disappearing; anæmic murmur disappearing, showing simply due to hydræmic condition of blood; liver not secreting; large gain in weight, due to rapid assimilation of food; owing to great muscular waste large urinary excretion (1950 cc. in one day), due doubtless to almost total inactivity of sudorific glands.

CAUSES OF DISCOLORATION IN GOLD FILLINGS IN TEETH.

BY WILLIAM HERBERT ROLLINS.

As pure gold is not supposed to discolor, the causes must be other substances which may be introduced in one or more of several ways: they may be present in or on the gold foil when received from the makers; they may be introduced by the operator in making the fillings; they may be present in the mouth itself.

The best way to begin the investigation was evidently to collect the discolored portions of fillings and analyze them. As yet no satisfactory result has been reached in this way, because the quantities were too minute.

The fillings themselves were next examined. Iron, silver, tin, and mercury were found. In which of the ways mentioned did these metals get into the fillings? The first attempts made to answer this question were to get samples of gold foil from the prominent makers, number them, and send them to Dr. Hills, of the Harvard Medical School, to be analyzed. The results of these analyses showed that none of the samples were pure. This was unexpected, as the makers guarantee their foils to be one thousand fine, or absolutely pure. Silver was found in every sample and iron in some. Extensive analyses made by the same chemist a year later showed the same results. The gold prepared by R. S. Williams always contained the least impurities. As the gold when received from the makers was always found impure, a short description of the manufacture may be of value as showing how impurities may be introduced.

The gold out of which foil is made is the mint gold, containing about two parts in a thousand of impurities. The makers dissolve this in aqua regia, filter, precipitate with ferrous sulphate, or more rarely with oxalic acid, wash the precipitate, melt it, and after casting roll to ribbons between steel cylinders. It is then beaten to the required thickness between pieces of glued skin, which are never clean.

Gold in this form I shall call plain foil, to distinguish it from the forms in use. Plain foil is not in the market. It must be obtained by special order. To get this plain foil into the numerous varieties required by those who fill teeth, it passes through several processes and then becomes soft gold, cohesive gold,

gold cylinders, gold blocks, gold pellets, etc., etc.; indeed one maker advertises over fifty varieties.

Cohesive Gold. Plain foil is heated (usually on an iron plate.)

Soft Gold. I am not sure how this is made, as makers of foil have their secrets, but as surface impurities have been found on this kind of foil it is probable that, in some cases, the softness is due to those impurities which prevent two surfaces of this gold from uniting, and thus produce the so-called softness.

Corrugated Foil. Alternate sheets of gold and thin paper are made into a pile, placed between two pieces of iron and heated in a furnace till the paper is consumed. The sheets of gold are then separated, the ash of the paper removed as much as possible, after which the leaves are placed in books, or used in the manufacture of gold blocks, gold cylinders, gold ribbons, etc., etc.

Gold Blocks, Gold Cylinders, etc. These are the forms of gold in most general use. To make them the foil (usually the corrugated kind) is subjected to various rolling, pressing, and cutting processes by iron machinery.

This brief description of the manner of making gold for dental use enables us to see how easily impurities may be present in the finished product.

Silver, which is always present in the gold before refining, is almost sure to be present after the process, through careless manipulation and poor acids. Iron is likely to be introduced from the ferrous sulphate, from the mould, from the steel rollers, from the plates on which the gold is heated, from the hands, from the machinery used to form it into pellets, cylinders, etc. Other impurities are almost certain to come from the skins used in beating, from the paper used in corrugating, and from the dust of the shop.

To test whether impurities could be introduced by a careful person in making fillings, the following experiments were tried. The foil used was plain foil, and contained no impurities except a small amount of silver, as shown by a very careful analysis by Dr. Hills: —

First experiment. The foil was prepared in the ordinary way, as follows: It was cut with steel scissors, heated on iron, handled with steel tweezers, condensed with serrated steel pluggers, burnished with a steel burnisher. Dr. Hills' analysis showed that iron was present in these fillings.

Second experiment. The same foil was treated as before, only iridium instruments, made by the American Iridium Company of Cincinnati, were used instead of steel. Iron was found in these fillings.

Third experiment. The same foil was cut with bamboo, handled with gold tweezers, heated on platinum and condensed with iridium points, and burnished with an agate burnisher. No iron was found in these fillings.

This brief description can give no idea of the amount of care and time which has been spent on these investigations. I give a short abstract from one of Dr. Hills' reports, but even this conveys no adequate idea of the amount of delicate works in the analyses: —

"It is proper that I should state that great pains have been taken in the analyses to arrive at correct results. In the beginning great difficulty was experienced in obtaining chemicals of the requisite purity, and it was only after considerable time and trouble that acids absolutely pure were secured. In order to make certain that, if any of the metals tested for were found, they were contained in the gold itself, blank analyses were made before each analysis of the gold, using the same apparatus and chemicals."

Thus far the only metals whose presence we have accounted for are iron and silver. The next question which arises is, How came the tin and mercury in the fillings in which they were found?

Almost every dentist now uses amalgam in greater or less quantity. This remains on the instruments in minute amounts, often invisible; and when, by accident or otherwise, the same burnishers perhaps are used in making a gold filling, a little of the amalgam gets upon the surface, showing itself after a time as a discolored filling. That this is a frequent cause of discoloration I have no doubt, and only by performing all amalgam operations in another room with an entirely separate set of instruments can we hope to get rid of the trouble. As an illustration, I should like to mention the following case: An amalgam filling had been made in the morning, the hands carefully washed, and other fillings of gold made before lunch. In the afternoon a large gold filling had been almost completed, but needed a little burnishing. The gold burnisher was moistened with soap and applied to the filling, which directly changed color. An examination of the burnisher showed the same trouble. For a long time I was unable to account for the mischief. At last it was traced to the soap, to which a little of the amalgam must have clung when the hands were washed in the morning after using the amalgam.

In the beginning of the paper three ways were suggested in which impurities might get into gold fillings. I have shown that in the first and second of these ways impurities are introduced, and with regard to the third way the following may be said: Certain medicines, as iron, when allowed to remain in contact with the teeth, cause a discoloration of the débris which collects about the fillings and on their surfaces. In the mouths of those who smoke, the deposits of epithelial cells mixed with lime and germs which collect about imperfectly cleaned fillings become darkened. This discoloration makes fillings in some cases almost black. Discolored fillings are due to many different causes, as I have shown. In conclusion, the following suggestions, if faithfully carried out, will do away with some of these causes: —

Demand purer gold from the makers. Use this in the form of plain foil, because this is least liable to contamination.

Never touch gold foil with steel instruments of any kind. If it is necessary to heat the gold, do this on platinum.

Keep a separate set of instruments for amalgam. Insist upon a thorough cleaning of the mouth every time food or medicines are taken.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

THE DESCENT OF THE TESTICLE AND THE NATURE OF THE GUBERNACULUM.[1]

THIS vexed question is ably discussed by Dr. Bramann, of Königsberg, who has studied it anew under the guidance of Professor Schwalbe. He begins with

[1] Archiv für Anatomie und Entwickelungsgeschichte, 1884, Heft 3, 4.

the inevitable historical introduction, which in this case is more interesting than it often is. Without mentioning the smaller points of difference, we may say that the gubernaculum testis is described by some as a hollow cylinder of peritonæum, but others hold that inside of the serous covering there is connective tissue or muscular fibre, or both. Seiler, Burdach, Müller, and Bischoff agree that it consists of a central cord of loose connective tissue extending upward from the scrotum, and continuous in part with the subcutaneous connective tissue. At its upper end it is attached to a jelly-like body. On the passage of the cord through the inguinal canal this connective tissue receives a covering of muscular fibres from the internal oblique and transversalis, which extend half-way up the gubernaculum. Outside of this the structure has a light layer of connective tissue from the fascia transversalis, and finally is covered by the peritonæum.

There is also much divergence as to the origin of the processus vaginalis: namely, the pouch of peritonæum lining the scrotum into which the testis descends. We may merely mention the old view, that it is formed by the pressure of the testis, as having, we believe, no modern supporters; but although it is agreed that the pouch is ready to receive the testis before the latter enters it, there is great uncertainty as to the period of its appearance. Some authorities claim that it is found in the four-month fœtus, others that it appears after the descent has begun.

Again, authors are not agreed as to the mechanism of the descent of the testis. One theory, and perhaps the most general one, is that the gubernaculum turns itself inside out like the finger of a glove; another, less clear, rests on the alleged opening out of the folds of peritonæum covering the gubernaculum, and according to the third the fibrous tissue of the gubernaculum shrinks. The theories just mentioned, excepting perhaps the last, that of the "shrinking," refer rather to concomitant changes than to the actual cause of the descent of the testis. Some hold that this cause is muscular traction, others the shrinking just mentioned, others the unequally rapid growth of different parts by which the position of the gland is necessarily changed, and others again the pressure of the growing abdominal organs. It is needless to say that we have mentioned only the leading tenets of the different parties in this controversy. To consider details would be well-nigh endless.

Dr. Bramann has investigated the matter by the dissection of more than forty fœtuses, and he has made both transverse and longitudinal microscopic sections of the gubernaculum.

Owing, apparently, to an unequal rate of growth of the walls of the body and the viscera, the testis descends toward the ring till the third month, when it again moves upward. It begins its final descent at the end of the sixth or beginning of the seventh month. The gubernaculum, when fully developed, arises at the external abdominal ring from the aponeurosis of the external oblique. It is joined by muscular fibres from the internal oblique and transversalis. In the main the description corresponds pretty nearly with that of Seiler and others, only the gelatinous body is wanting, the muscular fibres extend more than half-way up, and, originally at least, it does not arise from the scrotum. If it be pulled upon in an upward direction, the abdominal wall will follow, but the scrotum will not.

As the testis descends (the left one is the first to move), the gubernaculum appears to shorten, but this is deceptive, owing to the protrusion of the processus vaginalis into the scrotum. It is only when the testis has approached the internal ring that any real shortening occurs; till then the gubernaculum has simply moved bodily downward.

The processus vaginalis is to be seen as a small pouch of peritonæum as early as the third month, but it does not extend into the scrotum until the descent of the testicle begins. The gubernaculum lies in the posterior wall of the processus vaginalis, and as both descend, the former is turned inside out, its tissues passing over the latter so as to form the envelopes of the testis and vas deferens. This, however, applies only to that part of the gubernaculum below the point where it is pierced by the vas. From this it follows that the cremaster is formed from the muscular fibres of the gubernaculum.

As to the cause of the final descent Dr. Bramann has little positive to say. He denies that the shrinking of the gubernaculum pulls the testis downward, for in the first part of the process, as has been stated, the gubernaculum is not shortened, and later it is not fixed to the bottom of the scrotum. Still, our author admits that the shrinking of the central areolar part of the gubernaculum, which is continuous with the connective tissue of the scrotum, does play a part. He believes also in the influence of the pressure of the enlarging abdominal viscera. As a proof of this he cites the fact that when the sigmoid flexure is much distended with meconium, the left testis descends first. We are inclined to doubt, if not the principle, at least the illustration, on account of the uncertain position of the sigmoid flexure in fœtal life.

ON THE NATURE OF CERTAIN LIGAMENTS.[1]

Mr. J. B. Sutton has written a paper with the above title that is of much interest to those who consider anatomy from a scientific standpoint. He first treats of certain ligaments in the seal connecting the heads of corresponding ribs. These ligaments had already been described by Professor Mayer, of Bonn,[2] as *ligamenta conjugalia costarum*, and independently by Professor Cleland.[3] We will follow Mr. Sutton in reproducing the latter's description of these curious structures: "None of the ribs of the seal has the articular surface divided in two, but each of those that arise opposite intervertebral discs has a depression on the inferior margin of its articular surface similar to that on the head of the femur, and from this springs a strong and rather flat ligament, which, sheathed in synovial membrane, passes above the intervertebral disc, and is attached in the same way to the rib of the opposite side. It lies close to the disc which is grooved for it, and is covered by the superior common ligament. As it nears its attachment at each side it is flattened out, so as to lie like a fibro-cartilage between the rib and the intervertebral articular surface, and the head of the rib rolls on this structure. The synovial investment of the ligament and upper edge of the intervertebral disc are continuous with the joint on either side, so that there is one common synovial capsule in connection with the articulation of the heads of each pair of ribs to the

[1] Journal of Anatomy and Physiology, April, 1884.
[2] Müller's Archiv, 1834.
[3] Edinburgh New Philosophical Journal, 1859. Structure, Actions, and Morphological Relations of the Ligamentum Conjugale Costarum.

vertebræ."[1] This ligament has been found in many mammals, but apparently the synovial connection exists only in the seal. Mr. Sutton has discovered this band in the human fœtus from the seventh month till birth. Within a few months more it disappears, fusing with the disk in front, and contracting an intimate union with the posterior common ligament. The synovial connection is not found. Following Cleland, Mr. Sutton believes this to represent an important vertebral element, but he emphasizes the point that this ligament is represented by the transverse ligament of the atlas and by the odontoid ligaments, which seems very probable; but we cannot agree with him that "the singular condition of the ligament in the seal explains in a beautiful way the existence of a synovial cavity in so curious a situation as the back of the odontoid process." In the first place the situation is by no means a curious one, for it is elementary that synovial sacs occur where there is motion between two resisting bodies; and, secondly, we fail to see that the presence of these synovial sheaths in an aberrant type like the seal explains anything at all about the odontoid in other animals. If they were found in fœtal animals, the argument would be much stronger.

Mr. Sutton has made some interesting observations on the ligaments of the knee and foot. He finds that the internal lateral ligament of the knee-joint was originally a part of the adductor magnus, which in the four-months' fœtus runs to the head of the tibia. He holds also that the long external lateral ligament was originally the tendon of the peroneus longus, which in a fœtus a little older than the one just mentioned was found springing from the external condyle of the femur, and having but a very loose attachment to the head of the fibula. He finds a similar arrangement in the adult gibbon, and states that this muscle may often (in comparative anatomy) be found connected with the ligament.

"If a human fœtus, even as late as the sixth month of intra-uterine life, be examined by making a section vertically through the tendo Achillis, os calcis, and cuboid, it will be seen that ligament and tendon form one continuous band, and that the attachment of the tendon to the under surface of the os calcis is only of the loosest kind. After the seventh month of intra-uterine life the tendon becomes divided by extra growth occurring at the posterior extremity of the os calcis, the anterior portion becoming long and short plantar ligaments, the other gaining a permanent attachment to the lower border of the os calcis." The explanation of these changes is to be found, according to Mr. Sutton, in the stretching action the muscles undergo during growth, when the relative length of the segments of the limbs is changed.

VARIATIONS OF THE THORACIC DUCT.[2]

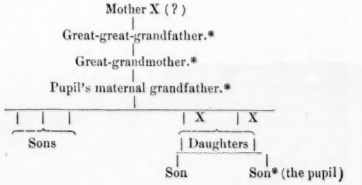
Mr. Arthur Thompson has examined the course of the duct in subjects in which there is no innominate artery, and the right subclavian is given off after the other branches and then runs across to its own side. In three cases which he has examined he finds that the duct opens on the right side of the neck instead of the left. In two of these cases the duct runs in front of the abnormal subclavian, and in one behind it. Little is known, unfortunately, of the early stages of the development of the thoracic duct, but we know that it not rarely is double for short distances, and that it is in close connection with the large arterial trunks; for these reasons Mr. Thompson believes that the explanation of the simultaneous occurrence of these anomalies is to be found in the history of the arterial development.

[1] Mr. Sutton does not appear to be aware that this ligament in the seal has been described also by Professor Lucæ under the name Ligamentum Capituli Costæ Intermedium. According to him the lateral parts are twisted instead of being flat. Robbe und Otter. Abhandl. Senckenberg. Natur. Gesel., Bd. viii., 1872.

[2] Journal of Anatomy and Physiology, July, 1884.

HEREDITARY DEFORMITY OF THE HAND.[1]

The following curious case of heredity, reported by Professor Turner, is remarkable for its completeness. One of his students showed the professor his left hand, of which the ring finger was more than an inch shorter than the middle finger. The phalanges were normal, the shortening being due to want of development of the metacarpal bone. We reproduce the family tree, as well as some of Professor Turner's remarks concerning it. The persons who presented the deformity are marked *. It is to remembered that "mother" at the top of the tree was the great-great-great-grandmother of the pupil.



"Thus my pupil's maternal great-great-grandfather had the deformity. He transmitted it to a daughter, and she to a son, who was my pupil's grandfather. There seems also to be a belief in the family that the great-great-grandfather's mother had the deformity.

"Again, my pupil's grandfather had three sons and two daughters. The sons were free, but the daughters had it. One of these daughters was my pupil's mother; he had a brother and sister who died in infancy, but does not know if their hands were deformed. Most likely they were not, or it would have been noticed. His mother's sister had a son in whom it did not occur. A peculiarity in the tree at once strikes one, namely, that the deformity has alternated from mother to son, and then again to the female line.

"Another peculiarity in the same family is a widening of the thumb and great toe, which sometimes occurs along with the short metacarpal bone, at others where the metacarpal bone is normal. My pupil has it, also his mother and her sister. One of his maternal uncles has it, and a daughter of that uncle, but they have not the short metacarpal."

[1] Journal of Anatomy and Physiology, July, 1884.

— One of the comic papers has this paragraph: "A patent medicine manufacturer died in New York last week. Before he died his friends asked him how he would like to be buried. He had just strength left to say: 'Insert me top column, next to reading matter, fifty-two times, electro by mail,' and then he closed his eyes, and passed away to that bourne where there are no omissions nor wrong insertions."

Reports of Societies.

REPORT OF THE EIGHTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

HELD AT HIGHLAND FALLS, NEW YORK, ON THE 27TH, 28TH, AND 29TH OF AUGUST, 1884.

First Day. Morning Session.

After the report of the Council of the Association and the transaction of routine business, the President, Dr. R. W. Taylor, of New York, delivered a brief introductory address, and then declared the meeting open for business, calling upon Dr. W. A. Hardaway to read the first paper on

A CASE OF XANTHOMA MULTIPLEX.

The patient was a man thirty years old, who had had the disease four years. Previous to its appearance his health had been good. The right half of his body, when first seen by Dr. Hardaway, was of a bronzed hue, the left yellow. The liver was much enlarged, thickened, and nodular, and there was a trace of sugar in the urine, the specific gravity of which was 1016. The body, the condition of which was minutely described, was almost covered with xanthomatous lesions in the form of tubercles, some as large as a pigeon's egg. Some could be felt deep in the subcutaneous fat tissue and also in the tendons. There were bony growths over the head of each tibia, and all the maleoli were enlarged to twice their natural size.

The lesions gave the patient but little trouble, his principal sufferings being due to his pulmonary emphysema, and to an intense pruritus which was general, and had annoyed him for a long time.

The author of the paper called especial attention to the fact that the bronzing of the skin antedated the xanthoma by some years, that the eruption was symmetrical except on the trunk, where it had assumed the form of an herpes zoster, and that internal organs were also affected. The bones were also involved, and he claimed that the peculiar distribution of the tubercles on the chest showed that the nervous system was probably influential in causing the disease.

DISCUSSION.

Dr. S. Sherwell said that he had never been able to establish a connection between xanthoma and hepatic disease. In all the cases he had seen the patients were otherwise healthy.

Dr. J. C. White remarked that it was very rare to find xanthoma associated with jaundice, he himself having noticed the connection only once in many cases that he had seen. He did not believe that the affection was of a diathetic nature. He had, however, seen several cases in one family.

Dr. L. A. Duhring called attention to the fact that the pruritus began with the jaundice and not with the xanthoma. He was inclined to believe that there was some connection between the formation of the tumors met with in this disease, and in those formed in some cases of urticaria pigmentosa. Under the latter term two distinct varieties of disease were often described.

Dr. Taylor agreed with the other speakers in denying the existence of a connection between xanthoma and a diathesis. He believed that if involution of the lesions ever occurred, it would be on the body, as he had never seen the disappearance of any lesions from the face.

Dr. Hardaway said that he had only the patient's statement to the effect that involution of some of the lesions had taken place. He thought the bone lesions of his case were extremely interesting and very rare. The connection between the two was very obscure.

First Day. Evening Session.

Dr. J. Nevins Hyde read a paper entitled

A CLINICAL STUDY OF LUPUS ERYTHEMATOSUS AS IT AFFECTS THE HAND.

The author described in detail the symptoms of the disease as exhibited by four patients under his care, three females and one male. In each the discoid variety of the affection was shown upon one hand, and of the four cases only one had facial lesions, which came out some years after the disease was fully developed on the hand. In several of the cases the fingers were involved, and in one the palm was extensively affected.

The paper terminated by a presentation of other cases recorded in literature of the same form of the affection. The prominent features in each case were tabulated, and from this comparison it appeared that the average age of the patients was somewhat over twenty years, and that about two thirds of them were women, thus confirming the observations made by Kaposi in 1882. The cases in which the hands were affected were all recorded by either American or English authors.

DISCUSSION.

Dr. White had seen three or four cases of lupus erythematosus in which the hands alone were affected. He had also seen cases of the disseminated form of the disease in which the hands were free. In none of them had he been able to recognize any evidences of a depraved condition of the system. He thought that cases in which the palms were involved were not extremely rare, but that the affection was often regarded as eczema or some other disease.

Dr. Sherwell had never seen the disease on the palms, but had seen it on the backs of the hands.

Dr. Taylor had seen two cases of the affection as described in the paper, one in a man, the other in a woman. Both were in good health and seemed free from diathetic taint.

Dr. Hyde stated that his main object in writing the paper was to point out the ease with which the affection could be recognized, and also to enrich the literature of the subject.

The second paper was read by Dr. S. Sherwell, and was entitled

A SUGGESTION CONCERNING THE TREATMENT OF ACNE AND ACNE ROSACEA IN THE MALE SUBJECT.

He said that too little attention had been paid to disturbances of the genital tract as causes of the diseases which formed the subject of his paper, and gave credit to Piffard and Hyde for having recognized their importance in this regard. He then spoke of the occurrence of chronic congestion and hyperæsthesia of the male urethra in some cases, and recommended for its relief the use of cold steel sounds. He concluded by detailing two cases which were greatly benefited by this means.

DISCUSSION.

Dr. A. R. Robinson thought the suggestion a sensible one, and that if followed benefit would result in some cases.

Dr. G. H. Fox spoke of the liability of physicians to ascribe results to a certain line of treatment, when the improvement might have been due to a change in regimen on the part of the patient without the knowledge of the physician. He also thought well of Dr. Sherwell's suggestion.

Dr. J. C. White next read a paper on

A CASE OF UNILATERAL CHROMIDROSIS (?).

It contained the report of a case of a workman in a sugar refinery, whose shirt had been stained a bright yellow color for several months. After wearing it a few days the left side all the way down seemed stained by saffron. There was apparently no excessive perspiration of that side of the body, nor were the garments stained elsewhere. An analysis of the material absorbed by the shirt showed that it was of an oily character, readily extracted by ether, and yielding peculiar absorption bands by the spectroscope. Its nature was not more definitely determined. It was also uncertain whether it was secreted by the sweat or by the sebaceous glands. The color was not due to the presence of bacteria, which have been found in some of the few cases of yellow sweat reported. The affection was immediately controlled by local treatment, and had not recurred four months later.

DISCUSSION.

Dr. Duhring thought that the description read gave an accurate notion of the disease, and he saw no reason to doubt that it was a case of genuine chromidrosis. He had recently seen a case of red sweat in a young woman, where it occurred in spots over the body.

Dr. Fox had never seen a genuine case of chromidrosis. He spoke of one which he thought genuine, but which was found to have been produced by the rubbing off on the chin and neck of the patient of the red dye from a bed-covering during the night.

Drs. Hardaway and Hyde had seen almost identical cases.

Dr. White explained that the query after the title of his paper referred to the uncertainty as to the source of the coloring matter.

Dr. White then read a paper on

CASES OF ARSENICAL DERMATITIS.

He gave brief notes of cases of supposed arsenical dermatitis in connection with the report of a train of uncommon cutaneous manifestations in a mother and her new-born child, after confinement within a chamber the walls of which were covered with arsenical pigments. The object of the paper was to raise the question, how far was the apparent case of "pityriasis maculata et circinata" in the mother dependent upon the presence of arsenical compounds in the atmosphere of the lying-in chamber, an affection concerning the ætiological relations of which nothing is known? In the infant the symptoms were of an eczematous type, with unusual manifestations of intertrigo.

DISCUSSION.

Dr. Hyde remarked that the number of artificial dermatoses was increasing rapidly, and that the question should always be raised in doubtful cases.

Dr. Sherwell said that the recital of the cases had made him think that a certain obscure case which he now had under observation might be an instance of arsenical dermatitis. The eruption was one of tense bullæ.

Dr. White said that the case might be one of poisoning from the bites of mosquitoes, acting upon a skin not accustomed to them. He had seen many cases where such an eruption was produced in this way.

The Association then adjourned.

SECOND DAY. MORNING SESSION.

Dr. L. A. Duhring read a paper on

DERMATITIS HERPETIFORMIS AND ITS RELATIONS TO IMPETIGO HERPETIFORMIS.

The paper, which in its first portion was practically a synopsis of one read at the last meeting of the American Medical Association, in its second part aimed to establish the identity of the disease with cases described by Hebra under the name "impetigo herpetiformis," which usually occurred in pregnant or puerperal women, and generally resulted fatally.

DISCUSSION.

Dr. Fox expressed the great satisfaction with which he had listened to the paper. He thought that great credit was due its author for taking so comprehensive a view of so many different forms of disease, which had been described under the names "pemphigus prurigi-nosus," "herpes chronicus," "herpes gestationis," etc. He now felt confident that they were all cases of the disease Dr. Duhring had so well described. He then reported a case of his own, which he had called chronic erythema multiforme pigmentosum, but which he now regarded as identical with the affection described in the paper.

Dr. H. G. Piffard said that the disease which had been so ably described was rare, and its manifestations not clearly marked. He felt sure that the affection was not closely allied to herpes, as its lesions were too polymorphous. He described at length a case of the disease which he had recently seen.

Dr. White expressed the great difficulty of classifying cases such as had been described. He was inclined to think that the term "multiform dermatitis" would better define the disease than that suggested by the author of the paper. He was not yet prepared to admit the identity of the disease with that of Hebra's cases, as he had never seen an instance of the latter. He also saw no valid reason for accepting the conclusion of the author that the affection was of a neurotic origin. He called attention to the fact that the disease was likely to be regarded as eczema by practitioners.

Dr. Hardaway thought that a certain number of cases with papular, vesicular, and pustular lesions could properly be called "herpetiform." He believed there was a neurotic basis to many such diseases.

Dr. Robinson spoke of three cases he had seen, and gave a careful description of one, of which he exhibited a colored drawing. He had recognized a neurotic element in the case, and had ordered the patient, a boy ten years old, to take nine drops of Fowler's solution three times a day. Speedy improvement followed.

Dr. Sherwell said that he believed that Hebra's cases were of a septic origin, and that they were in nature identical with the cases which are so common in hospitals infected with hospital gangrene.

DR. DUHRING said that his paper was based upon the careful study of sixteen or seventeen cases of the affection which had been under his care, some for a long time. He defended the use of the adjective "herpetiform" in connection with the disease, since in many of the cases the disease was from the first of a distinctly herpetic character. He reaffirmed his opinion that the difference between his cases and those of Hebra was simply one of degree.

The evening session was devoted to the presentation of the report of the Committee on Nomenclature, and the revision of the latter.

THIRD DAY. MORNING SESSION.

In the absence of their author, DR. HENRY W. STELWAGON, the secretary read two papers, one entitled

A CASE OF LATE CUTANEOUS SYPHILIS (ACNE-FORM SYPHILODERM OF THE NOSE), ILLUSTRATING THE OCCASIONAL NECESSITY OF LARGE DOSES OF POTASSIUM IODIDE.

The evidences of syphilis in the case were obscure, and the diagnosis was for a time uncertain. Only after the patient had for some time taken drachm doses of iodide of potassium three times a day did the disease yield.

The second paper was on

A CASE OF VITILIGO INVOLVING THE WHOLE SURFACE.

It described accurately the progress of the disease and the appearance of the patient.

DR. W. A. HARDAWAY next read a paper on

A CASE OF GENERAL IDIOPATHIC ATROPHY OF THE SKIN.

Photographs illustrating the case were exhibited.

The patient was a blind man, twenty-three years old. He had a sister also blind, and with the same skin disease, as he stated. The skin of his face was thickened and reddened, there were scars around his mouth, and he had the so-called "strumous lips." The integument of the trunk presented a checkered glistening aspect; patches of pigmented skin alternating with atrophic spots. The skin over the latter was tense and glistening, and could be picked up with difficulty. No dilated vessels were visible. The skin and muscles of the hand were atrophied, and the sides of the fingers had grown together over half their extent. There was necrosis of the conjunctivæ, corneal opacities and adhesion of the lids to the globes.

DISCUSSION.

DR. DUHRING said that the atrophy was the only essential feature of the disease under consideration. All grades are met with, from those having no tendency to degeneration to those developing carcinoma or sarcoma.

DR. TAYLOR said that in his opinion the condition of the skin in the case described in the paper was not like that met with in the disease known as angioma pigmentosum et atrophicum, as this patient presented simply an ill-nourished senile-like condition of the integument.

DR. WHITE was unable to agree with Dr. Duhring as to the affinity which he believed to exist between the different varieties of atrophic processes in the skin, which, in his opinion, varied widely. In one class we met with loss of pigment and a deposition of epithelium, without changes in the corium. In another hypertrophy of the corium was a prominent feature. In a third variety new growths were developed. He did not think the case reported could be associated with the last class.

DR. A. R. ROBINSON then read a paper on

MILIARIA AND SUDAMINA.

He first quoted the views held by different authors as to the true nature of a dew-drop-like eruption usually described under a variety of names, such as miliaria alba and rubra, sudamina, prickly heat, eczema solare, lichen tropicus, etc., and showed that they conflicted greatly. His object in preparing the paper was to attempt to accurately define the true nature of this eruption, and the conclusions he had reached were based upon original microscopical studies, drawings of some of which he exhibited.

He concluded that miliaria and rubra were simply forms of eczema, due to external irritation. He therefore thought that the term miliaria should be dropped.

The disease known as sudamina he had found to be not an inflammatory affection, but a disturbance of the sweat glands, the result of an hyperidrosis.

DISCUSSION.

DR. HARDAWAY was opposed to the use of the term eczematous as applied to the affection under consideration, which was a dermatitis, while eczema was a distinct affection.

DR. HYDE was inclined to fully accept the views of the author of the paper. He thought that miliaria and sudamina were solely due to accidents occurring in the course of eczema.

DR. WHITE agreed fully with the author of the paper, and recognized no such disease as miliaria alba and rubra. The question was after all one of definition only.

DR. DUHRING, while fully appreciating the value of the paper, thought that we should not lose sight of the clinical histories of the two affections. He was not yet prepared to look upon miliaria as simply a variety of eczema.

DR. R. W. TAYLOR then read a paper

ON A PECULIAR RINGED AFFECTION OF THE GLANS AND PREPUCE.

He described three cases of the affection seen during the past ten years. The patients were all men of middle age, and the disease was in all preceded or attended with neurotic disturbances. It appeared in the form of rings on the mucous membrane, and proved exceedingly obstinate, yielding only to large doses of arsenic. It showed no tendency to spread, and was not attended with hyperæmia. He was loath to regard the disease as one *sui generis*, but had carefully eliminated syphilis, ring-worm, and psoriasis in making a diagnosis.

DISCUSSION.

DR. DUHRING thought he had seen several cases of the disease. One or two of them he described at length. He had called them lupus erythematosus, to the gross appearances of which disease they bore a marked resemblance, and he was inclined to regard Dr. Taylor's cases as instances of that affection.

DR. WHITE had had one case under observation for

some time. He had made no positive diagnosis, and the patient had not improved.

DR. HARDAWAY described a similar case occurring in a man who had had psoriasis. The lesion on the glans was, however, not psoriasis.

DR. ALEXANDER suggested that the disease might be analogous to leukoplakia buccalis.

DR. WIGGLESWORTH cited the case of a man under his care who had had leukoplakia, and who afterward developed a lesion on his penis resembling that described by Dr. Taylor. It ultimately disappeared under the use of pure carbolic acid.

DR. TAYLOR was positive that his cases were not instances of lupus erythematosus, but were totally unlike that affection.

OFFICERS FOR 1884–85.

President, Dr. W. A. Hardaway, of St. Louis.

Vice-Presidents, Dr. J. C. Graham, of Toronto; Dr. A. Van Harlingen, of Philadelphia.

Treasurer, Dr. George H. Rohé, of Baltimore.

Secretary, Dr. W. T. Alexander, of New York.

Mr. Jonathan Hutchinson, of London, Eng., was elected to honorary membership.

The following gentlemen were chosen as active members: —

Dr. George H. Tilden, of Boston; Dr. A. R. Morison, of Baltimore; Dr. F. C. Curtis, of Albany; Dr. L. N. Denslow, of Minneapolis.

Medical and Surgical Journal.

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THE DIAGNOSTIC USE OF QUESTIONS.

THE judicious use of questioning as an aid to diagnosis is an accomplishment not always easy for the physician to acquire. In proportion as a man's habits of thought are orderly and logical, to that degree will it be his aim to secure precise and definite information regarding every symptom of disease in a given case that presents itself. Physical exploration by the many "scopes" that medical science has invented in the last few decades is taught with great care in our best schools. But the art of gaining knowledge of those phases of disease which have transpired before the patient comes under the professional eye, or of those symptoms which, being purely subjective, can be learned only by the patient's word, is often, perhaps, not given sufficient importance in courses of medical training. To be sure, a clinical lecture is, or should be, an exemplification of the best method of this most delicate of all species of exploration, but it can hardly take the place of personal practice therein by the student himself under the constant suggestion and comment of the instructor. Much judgment is needed as to how far to make use of leading questions. Undoubtedly under certain circumstances they are of use as suggesting to the patient points which he would otherwise have forgotten, or would have thought unworthy of mention, and which yet have an essential bearing upon the case. For it is often the "unconsidered trifles" which are of value to the diagnostician. But, on the other hand, the hysterically inclined will "take suggestion as a cat laps milk," and every new symptom learned of is promptly added to the catalogue of woes. Probably many a physician has now and then yielded to a sudden temptation when talking with such a patient to ask some such question as "Have n't you sometimes had a stinging sensation in your left ear?" sure of receiving at least a qualified affirmative.

One great obstacle stands in the way of reducing diagnostic questioning to a fine art, and that is in the patient himself. It cannot be denied that upon the average intelligence subtle distinctions in the phraseology of questions, discriminating endeavors after the logical order of subjective symptoms, are often largely wasted. Good workmanship will fail if the material used is poor, and, unfortunately, many minds are of such poor stuff as to make it almost a waste of time to attempt to extract from them carefully considered statements. We can get at facts only through the media of ignorant or confused intellects. The sources of error are numerous and glaring. The original sensation may not have been correctly transmitted to the patient's cerebrum; it may not have been correctly perceived; the original perception may have been forgotten; the power of reproducing, formulating, and describing the sensation may be impaired or absent. Occasionally there is aversion to talking at all or to telling the truth. Patients think they are being badgered. We remember hearing an eminent clinical teacher, now deceased, ask a patient, before a class, regarding the possible hereditary nature of his disease. The colloquy was somewhat as follows: —

"What did your father die of?"

"Don't know."

"Did he ever have shortness of breath?"

"Think he did."

"When?"

"Just before he died."

"Do you know whether he had consumption?"

"No, I don't."

Several more questions were asked with no success in elucidating the point of heredity. Finally, in despair, the professor said, —

"How old was your father when he died?"

"One hundred and two."

We know how badly even honest and competent witnesses often fare when under cross-examination. The physician cannot expect the average patient, however well disposed, always to tell a perfectly straight and coherent story. An intelligent and truthful man will vary his narrative of the same facts from time to time according to the shading of the questions or the

order in which they are asked. It remains for the practitioner to frame his inquiries as simply and directly as possible, and, especially before those in weakness and suffering, to avoid anything suggesting the methods of the cross-examining criminal lawyer.

PRESENT DOCTRINE AS TO MEMORY-LOCALIZATIONS.

On a recent visit to a watering place we had the pleasure of listening to the performance of an aged vocalist — now in his ninety-first year — who has been totally deaf for thirty years. Despite the fact of deafness, the singing was in every way correct, the essentials as to *length*, *pitch*, and *power* being observed. The old gentleman was also able to play accurately on the violin many tunes with which he had in former years been very familiar.

Physiology is now able to give a sufficiently satisfactory explanation of phenomena of this kind which seem so mysterious to people in general. It is pretty generally agreed that the substrata of motor-memories — concerned in the movements of vocalization and musical expression — are situated in certain definite cortical areas in the anterior and parietal regions of the hemispheres. The principal centre is undoubtedly Broca's speech convolution in the left frontal lobe, but the centres of facial expression in both hemispheres have a part.

In instrumental performances the cineritious zones in the parietal lobes, known as Ferrier's Centres, are brought into exercise, while visual and auditory memories are located, the one set, according to Munk, whose experiments are very decisive, in the occipital region, the other in the upper temporo-sphenoidal lobe. (Ferrier, Munk, etc.) In the cerebrum of our aged musical friend, who did not appear to have lost his hearing from any cortical lesion, all the above-mentioned centres were presumably intact, and ready to respond to incitations; and all that was needed was the proper stimulus to set in motion a quasi-automatic machinery in whose direction the exercise of audition, though a helpful is by no means an indispensable factor.

Munk, who assigns to the memory of sight-perceptions an indefinite region, inclusive of Ferrier's visual centre, in the occipital and the posterior parietal lobes, has made a number of very interesting experiments in dogs, which throw a wonderful light on the functions of this part of the cerebrum. These experiments have been very graphically described by a recent writer in the *Popular Science Monthly*:[1] "In the first dog the entire posterior part of the brain was removed, and the dog was made permanently blind. In the second dog a portion of this part of the brain was cut out and the dog was deprived of his sight-memory. He was, however, able to recover. Successive operations repeated on the same dog showed that recovery was always possible until the entire posterior part of the brain was removed, when, like the first dog, he became permanently blind. The recovery then was possible because around the area cut out there was left a ring of gray matter which was in connection with the eye, and in this ring of gray matter, which formerly contained no memory-pictures, the new memory-pictures were stored. All the posterior part of the brain in the dog is therefore a *potential* area for sight-memories. The *actual* area for sight-memories occupies only a part of this potential area. If the actual area be cut out, a part of the potential area still remains; the dog is temporarily deprived of sight-memory, but can recover it. If the potential area is entirely extirpated, the dog remains blind and can never regain its memories. This distinction between actual and potential memory is borne out by similar phenomena in man."

These observations are in striking correspondence with the discovery of Huguenin, establishing direct anatomical relationship between the optic nerves and the occipital lobes. In one case of unilateral blindness of several years' standing, he found atrophy of both occipital lobes, much more marked, however, in the side opposite to the affected eye (the right side). This was accompanied by pronounced atrophy of the left optic nerve.

In another case, blindness of both eyes, existing from infancy, was found to coexist with atrophy of both occipital lobes.[2] Monakow always succeeded in "obtaining atrophy of the primary visual centres in rabbits after removal of a very limited portion in the occipital region, a part corresponding to the area in the dog which Munk has termed the visual area."[3] Other observations by Monakow, Gudden, and Ganser[4] render such anatomical relationship well-nigh proven.

With regard to the auditory centre, — centre of hearing, perceptions, and memories, — Ferrier, Munk, and Luciani agree in locating this centre in the superior temporo-sphenoidal convolution, destruction of this area, on both sides, in dogs, being attended with complete failure to respond to ordinary auditory stimuli, — in other words, being accompanied with deafness. Munk's experiments go to show that there is an *actual* and a *potential* area in this centre, just as in the case of the visual zone. If the actual area be extirpated, "the animal loses all memory of words and commands formerly recognized, attaches no meaning to the cry of its puppies, to the snap of the whip, or to its master's whistle." This *word-deafness* may, however, be recovered from in the dog, a gradual process of education developing new auditory residua in the potential area. If, however, the latter be extirpated, the animal becomes totally and permanently deaf.

An interesting case of *word-deafness* (with aphasia) confirmatory of the now generally admitted auditory localizations has been lately communicated to the Biological Society of Paris by M. Magnan.[5] The subject of the report died of cerebral *ramollissement*, had long been aphasic, and deaf to all comprehension of words, though understanding perfectly the language of signs.

[1] Popular Science Monthly, September, 1884.

[2] Huguenin, Correspond. f. Schweitzer, Aerzte, 1878, No. 22.
[3] Zenner in Medical Record, vol. xxvi., No. 6.
[4] Epitomized in Zenner's article.
[5] Journal de Thérapeutique, June 10, 1883, p. 435.

He even took pleasure in the reading of journals, and retained his ability to write. In other words, he had lost the faculty of perceiving *sound* images, while still keeping in its integrity the notion of written images. The autopsy of this patient disclosed diffuse sclerosis of the third left frontal convolution, with extensive softening of the temporo-sphenoidal lobe, "the maximum of intensity corresponding exactly with the region which has been pointed out as the perceptive seat of hearing." M. Magnan relates the history of another case very similar, except that here it was the angular gyrus which, along with the third frontal, was the focus of *ramollissement*. The patient, besides being aphasic, had lost all perception and memory of visual or written images, while recognizing and responding to sound images. These observations, which were made with great care, lend powerful support to the localization doctrines now so generally held. M. Magnan observes that we have here "a new proof of the existence of distinct perceptive centres for the different sensorial organs." It is also a striking fact, he remarks, that certain aphasics affected with *word* blindness learn to read raised letters like ordinary blind persons. This fact demonstrates that the encephalic perceptive centre where the retinal impression is recorded differs from that of touch and of the muscular sense; but where the one avenue of sensation is obstructed, the impression may be conveyed by some other more pervious channel to the centre of ideation." Ferrier concludes from numerous experiments that the seat of tactile memories is in the hippocampus, and he asserts that he has destroyed almost the whole outer surface of the hemispheres without causing loss of the sense of touch.[1] Later experimenters have, with strong probability, assigned almost the whole of the parietal motor region to tactile perception, the small cells of the deeper strata being concerned in this function.

It is evident that we are still on the threshold of this interesting inquiry. Certain facts are looming up with tolerable clearness: that the old phrenology is utterly erroneous; that important regions on the surface of the hemispheres, formerly assigned to psychical functions, are devoted to motor and sensory residua, — the memory of impressions and motor combinations, — and that *character* is dependent on other conditions than prominences of gray matter; that every centre of perception or muscular movement is also the centre of the particular memories connected with such movements or perceptions; and that our memories of speech, our visual memories, our auditory memories, our memories of motion may each be lost while other memories remain intact. All this has been as good as demonstrated within the past fifteen years.

MEDICAL NOTES.

— The use of undiluted cows' milk for infant-feeding received further advocacy in a lecture recently delivered at the Health Exhibition by Mr. Edmund Owen, F. R. C. S., on the rearing of hand-fed infants, the chair having been taken on the occasion by Dr. Charles West. Mr. Owen contended in favor of pure fresh milk as the best staple food of young infants during the first six months of life; and speaking of condensed milk, he declared himself unable to comprehend how any superiority could be claimed for condensed milk, this having been evaporated almost to dryness, mixed with sugar to prevent its going bad, soldered down in tin pots, and stored for an indefinite time in an oil and color shop. Insistence was also placed on the employment of the old-fashioned feeding-bottle, by using which all tubing was dispensed with, and regularity in feeding insured, since the bottle must be held by the nurse during the whole time the child sucked from it. The lecture is an interesting contribution to the literature of the subject it discusses; its facts and advice stated plainly and in a way to be understood by those chiefly concerned; and its delivery in connection with the great exhibition at South Kensington will no doubt be productive of good results.

— The Signal Service of the United States has taken measures to notify of the approach of marked changes in temperature by a system of signals. The "cold-wave flag," white with black centre, will be displayed at the central station, and it is suggested by the chief signal officer that smaller flags (to be procured by individual contributions, as the department has no money available for such uses) be shown at all places to which the *Farmer's Bulletin* is now supplied. The advantage of a general warning of approaching thermometric changes to many industries and interests is obvious.

— Noble Smith enters a protest, in an article on Postures in School, their Influence upon Physical Development (*Medical Times and Gazette*, August 9, 1884), against checking the natural activity of childhood. He considers that "the formation of the skeleton favors the production of deformity when constrained postures are maintained for long periods," and instances the effect of posture upon adults in the different trades: the waiter in restaurants becomes flat-footed and knock-kneed; the seamstress, the clerk, and the engraver show by their rounded backs the effect of long-continued posture. He writes that "it is a false system to attempt to refine young girls by restraining their natural freedom of movement. It is this false process which does so much to encourage the production of deformity. Long walks in precise and stately file produce a harmful strain upon the spine and legs, whereas free movement in such games as cricket and lawn tennis affords a healthful exercise." Touching upon the cause of the greater frequency of lateral curvature in girls, he thinks that all the factors in the formation of curvatures of the spine occur to a greater extent in girls than boys, in that "from infancy upward girls are discouraged from playing and romping."

— A remarkable case of hasty diagnosis and, it is to be hoped, an equally remarkable one of mulish obstinacy on the part of the mistaken practitioner, was brought to trial, early in August, at the Hants Assizes, in

[1] Functions of the Brain, p. 177.

England, before the lord chief justice. It appears that the plaintiff, Mr. Yarndley, whilst on yeomanry duty, in June last, became saddle-sore, a circumstance by no means uncommon to persons not in the habit of riding much. In order to protect the abraded skin he applied a handkerchief to the part. On his return home his wife, not being satisfied in her mind as to the origin of the blood stains, took the kerchief to a local practitioner (Dr. Pike), who pronounced in favor of the husband's misconduct. Nor did he retract his expressed opinion after he had personally examined the plaintiff at the invitation of the latter. Horrified at the charge made against him, Mr. Yarndley sought the advice of several doctors in the neighborhood, who unanimously declared that the diagnosis made by Dr. Pike was incorrect, and, with true professional courtesy, advised him to withdraw it. For some reason or other Dr. Pike failed to do this. Hence the action brought by the plaintiff to clear his character from the aspersions cast upon it. Apart from the fact that no manner of stain upon clothing could in itself be taken as proof of venereal disease, the circumstances were strongly suggestive of what was, no doubt, the real explanation, for the wound on the thigh exactly corresponded with the blood-marks on the trousers.

— Dr. M. G. Biggs reports this case in the *British Medical Journal*, May 10, 1884: "E. S., aged sixteen, a servant, had never menstruated, although she was a well-formed girl. She had, however, suffered from pain at distinct intervals, and, when she sent for me, her mother said she had been in severe pain all the previous night, and was then so bad that she was rolling on the bed, and that the womb had come down externally. On examination there was a distinct bluish projecting membrane, with marked fluctuation; the only opening to be found was that of the urethra. A triangular piece was removed from the centre of the membrane, and there was an immediate rush of a considerable quantity of dark-colored discharge, with instant relief from the pain, which did not recur. When the discharge had ceased the parts were covered with a piece of linen rag soaked in carbolic-acid lotion (one in forty), and this was ordered to be continued; but, as often happens in this class, the mother was somewhat careless, the rag was allowed to dry or to fall off, so that we may fairly say that there was a free access of non-carbolized air. She was kept in bed during the remainder of that day and the next, but there was no rise of temperature, and then she was allowed to get up and resume her work, which she did without any bad effects."

— A case is reported in the *Medical Times and Gazette* (April, 1884) of a primipara who was delivered on May 20, 1873, of an unusually fine male child, but having a large spina bifida of all the lumbar and one or two of the lower dorsal vertebræ, the integuments of which were so thin and transparent that the vertebral canal was distinctly visible with its contents. The child was dressed with the usual abdominal bandage, the pressure of which caused suppurative inflammation and thickening of the surface of the tumor, so that by August of the same year nothing remained but a fleshy mass, pressure on which caused no discomfort. About this time, however, the head was noticed to be becoming larger. By Christmas it was very large and cumbrous, and on the evening of January 24, 1874, it burst, and seven and three-quarter pints of slightly bloody serous fluid were collected in a pail. The child seemed relieved by the discharge, and slept better than usual, but died seventeen hours afterward.

— A case of poisoning resulting in one death is reported from Philadelphia. The accident seems to have been due to a misapprehension that certain small pills were homœopathic, whereas they actually contained one twentieth grain each of strychnia. A party of five were seated at the supper table, when, just previous to eating, one of the party produced a box containing about fifty granules, the directions written upon the box being to take one before each meal. The others at the table passed the box around, each taking some. One took nine, the others emptied the box, each taking probably at least five. One female swallowed a quantity not exactly known, but probably amounting to at least half a grain. She died in about three hours, after protracted tetanic convulsions. All the others were also affected in the same manner, with cramps and painful contractions of muscles; but, under medical treatment, they recovered after several hours' suffering.

Correspondence.

ANTHROPOPHAGY.

MR. EDITOR, — In an article on Anthropophagy, in connection with the Greely party, which appears in your issue of the 21st inst., I am glad to see expressions of pity for the unfortunate men who were reduced to such a direful extremity, and indignation against those who are to blame for leaving them to suffer and to die on the inhospitable shores of the Arctic Ocean.

We, as physicians, have nothing to do with the moral question involved; but as you discuss the subject of human flesh as food, I would call your attention to the case of the wreck of the schooner Almon Bird, published in full in the *Boston Sunday Globe*, January 8, 1882. Briefly stated the facts are as follows: She foundered in a gale January 2, 1882, and the crew, or the survivors of them, were picked up some forty miles north of this (Cape Ann) and brought in here by one of our fishing vessels. The men were exposed for three days and nights in an open boat. All were wet through but the mate, and he was the only one who escaped frost-bite. Three men died in the boat, and one a few days after being rescued, his feet and legs frozen stiff almost to the knees, all his fingers and both thumbs also. The captain's feet were badly frozen and he lost portions of both of them.

On the morning of the third day, says the captain, "famished with hunger and actually dying with thirst, we were compelled to do that which made our hearts revolt with horror. Driven to the last resort, and in an untold agony of desperation, I opened the jugular vein of the second mate, who had been dead about two hours, and we wet our parched lips and throats with his blood, still warm. . . . The draught of blood re-

vived us wonderfully, and it is my earnest belief that it was that alone which saved our lives."

I happened to be one of the physicians who had charge of these men after they were landed, and they all assured us that it did "*revive them wonderfully.*" "It put new life in me," was the way each one expressed himself. Of course we felt delicate about questioning them much, and consequently did not make very particular inquiry, but every one here knew it, and no one thought for one moment of blaming the poor fellows, as each heart was filled with pity for the unfortunate men. These men had some food (pilot bread) but no water.

Thinking these facts might be at least interesting, if not valuable, has induced me to send them to you to do as you please with them. Yours very truly,

AUG. M. TUPPER, M. D.

ROCKPORT, *August* 25, 1884.

OBITUARY: THE LATE SURGEON JOSEPH JANVIER WOODWARD.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
WASHINGTON, D. C., *August* 20, 1884.

IN announcing to the officers of the Medical Department the death of Joseph Janvier Woodward, Surgeon and Brevet Lieutenant-Colonel, United States Army, which occurred near Philadelphia, Penn., August 17, 1884, the Surgeon-General wishes to offer his tribute of respect to the memory of the deceased, whose distinguished career and valuable services, for a period of twenty-three years, have shed lustre on the corps, and for whose untimely loss feelings of profound regret will be shared alike by his comrades in arms and by the profession at large.

Dr. Woodward was born in Philadelphia, Penn., October 30, 1833, and was educated at the Central High School of that city, graduating with honor as Bachelor of Arts in 1850, and receiving the degree of Master of Arts from the same institution in 1855.

He graduated in medicine at the University of Pennsylvania, April, 1853; entered the army as assistant surgeon August 5, 1861; became captain and assistant surgeon, July 28, 1866; major and surgeon, June 26, 1876. "For faithful and meritorious services during the war" he received the brevets of captain, major, and lieutenant-colonel, United States Army.

He was assigned to duty in this office May 19, 1862, and from that date until the beginning of the illness which terminated in his death was intimately identified with its professional and scientific work.

While the valuable results of his life's labor are comprehended in a long list of miscellaneous publications, both professional and scientific, too familiar to the corps to require individual mention, his greatest triumphs were won in the field of microscopical investigation, in normal and pathological histology, and in his happy application of photo-micrography to the purposes of science. In these pursuits he attained remarkable success, and achieved an enviable, world-wide reputation, leaving to science and medicine lessons of undoubted value and usefulness. Of his strictly professional work the medical portion of the Medical and Surgical History of the War of the Rebellion was the crowning achievement. In the second part of this work he developed the results of his careful investigations into the nature and pathology of the intestinal diseases which had proved so fatal in the late war. Here also he displayed his wonderful capacity for that minute and exhaustive research which forms so striking a feature of his writings.

As in the case of his co-laborer, Otis, he yields to other hands the honor of completing his labors.

In addition to his engrossing professional duties, his restless activity of mind led him to seek recreation in his favorite studies, physics, art, and philosophy.

Endowed with a retentive memory and of untiring industry, he acquired a vast store of information which he held available for use at will; fluent of speech, he took delight in the expression of his views and opinions both in social converse and in the arena of scientific debate.

His fund of knowledge, his strong convictions, his tenacity of opinion, and his quick perception, made him a controversialist of no low order.

With such a record it is needless to speak of his zeal, his ambition, or his devotion to his profession, and especially to the reputation of the corps of which he was so bright an ornament.

Of a sensitive, highly-strung, nervous organization, the confinement, anxiety, and labor to which he was subjected in his attendance upon the late President Garfield during his long illness proved too much for a mind and body already overstrained by incessant labor, and precipitated the illness which finally terminated his life.

At the time of his death Dr. Woodward was a member and ex-president of the American Medical Association, a member and ex-president of the Washington Philosophical Society, a member of the National Academy of Science, of the Association for the Advancement of Science, of the Academy of Natural Sciences of Philadelphia, and of the College of Physicians and Surgeons of Philadelphia. He was an honorary member of several American and foreign scientific, medical, and microscopical societies, and the recipient of many distinguished honors from learned bodies in this country and abroad.

R. MURRAY,
Surgeon-General United States Army.

Miscellany.

INTERNATIONAL COLLECTIVE INVESTIGATION.

THE address of Sir William Gull before the International Medical Congress at Copenhagen, in which he strongly urges the adoption by the universal medical world of that system of collective investigation of disease which the British Medical Association has been employing with such satisfactory results both in present attainment and in anticipation, has been published in full in our English contemporaries, and is a strong plea. The *Medical Times*, commenting upon it, points out that this method of investigation is not a modern project, but that it suggested itself to Lord Bacon three centuries ago as the *novum organon*, — the "new machine" whereby the facts of nature might be observed, arranged, and treated in such a way as to come within the mastery of man.

As medicine is to be the first science to which this new modification of the Baconian method is to be applied, remarks the *Times*, so, it may be pointed out, it is almost the only one in which it would be practicable.

In no other branch of natural science are there so many observers more or less efficiently trained, and enjoying, from the very nature of their daily work, so many hourly opportunities of registering important facts. Even as it is, medicine, like botany and zoölogy, has been in great measure built up of facts observed by, so to speak, amateur observers, that is, observers with whom observation has been the secondary and not the primary business of their lives. The only matter for surprise and regret is that the valuable work of these observers has not already long ago been systematized, directed, and stimulated by some central organization. Hereafter, let us hope, the present generation and the present year will be looked back upon as forming as important an era in the progress of medicine as the publication of Bacon's great work formed in the history of scientific inquiry in general. After the forcible and closely reasoned address of Sir William Gull, we do not think that there will be many who will have the courage to augh down the new movement. Difficulties of course there will be. The average man is not to be turned into a trustworthy observer, because his observations are collected and published. The "idola" of which Bacon warned us will still distract and disturb the search after truth; but, as Sir William Gull has shown, the very magnitude of the operations of the Collective Investigation Committee will tend to neutralize and eliminate these sources of error. The "idola tribûs," the errors to which minds are liable from their national constitution, will be naturally reduced when many nations share in the work; while the "idola specûs," the errors arising from egoism and individual bias, will be eliminated when the observer is only an impersonal unit in a vast multitude of fellow-workers. It may be calculated that those who only work for personal renown will not enter enthusiastically into the movement, but that it will be left to such as are actuated mainly by love of truth and an ardent desire for human welfare, — the motives which the author of the "Novum Organon" put forward as the main incentives to scientific research.

THE HYPODERMIC INJECTION OF AMYL AND EPILEPTIFORM CONVULSIONS.

DR. SYDNEY RINGER, according to the *London Medical Record* (August 15th), has noticed the occasional action of the nitrite of amyl upon the heart, and the strange effect sometimes produced upon the nervous centres. He says: "I have seen one case where a woman immediately after a drop dose turned deadly pale, felt very giddy, and then became partially unconscious, remaining so for ten minutes." And again: "A delicate woman, after one-thirtieth of a drop, passed in a few moments into a trance-like state." In a case described by Dr. Strahan,[1] a chronic maniac, aged fifty-three, had suffered for several days from severe lumbago; a ten-minim dose of a ten per cent. solution of nitrite of amyl in rectified spirits was injected hypodermically. "Immediately after the injection the pain disappeared. He got up from the bed, and at my request stooped and touched the floor with his fingers. In, as nearly as could be guessed, about a minute and a half, he suddenly became deadly pale, and sank back upon the bed." Then his face, head (bald), and neck became congested, and he was strongly convulsed for about half a minute. The convulsion affected the face and arms strongly, the legs slightly. The teeth were ground, and the breathing was suspended. In a few minutes, after coming out of this fit, he was attacked by a second one, during which the heart's action became very faint. He was made to inhale some chloroform, and the fits did not return. The lumbago entirely disappeared. This observation is interesting, as inhalations of nitrite of amyl have been recommended, both in England and in Italy, to check the recurrence of epileptic convulsions.

[1] Journal of Mental Science, July.

THE DEATH CERTIFICATE IN A CASE OF SUICIDE, WITH REFERENCE TO INSURANCE.

THE president of the Medico-Chirurgical Society of Edinburgh recently exhibited before the Society[1] the parts from a case of cut-throat, with remarks bearing on the liability of life insurance companies. The cut happened in the person of a constable who had been troubled for about six months with insomnia. One morning he got up about four, after a restless night. His wife, who was sleeping in another apartment, heard a heavy fall and a deep moan, and going in found her husband lying on the floor, and blood flowing from the neck. Strange to say he was able to articulate, and said he had cut his throat. His larynx was opened into, the epiglottis cut across. No important vessel was wounded, but there must have been considerable hæmorrhage. He was taken to the infirmary, but died on the way. The body was taken home after two days, when the widow consented to have a post mortem performed, the reason for this being that the man was insured, and he (Dr. Littlejohn) was of opinion that if an autopsy revealed cerebral disease the medical attendant was entitled to give such a certificate of death as would cause even those insurance companies who forfeited the policies of suicides to pay the policy. In this instance he was glad to say he found traces of chronic cerebral disease, great adhesions of dura mater to bone, adhesions in arachnoid cavity, a large amount of sub-arachnoid fluid, and roughness of the internal surface of the cranium, justifying him in giving a certificate of chronic cerebral disease, with a wound in the neck, which was available in procuring the insurance money.

[2] Edinburgh Medical Journal, August, 1884.

THE PATHOLOGY OF OBESITY.

PROFESSOR KISCH, of Prague, has recently contributed to the *Deutsche Medizinal Zeitung* an article on the above subject, in which he considers the derangements, functional and organic, to which the corpulent are specially predisposed. The *Medical Record* (August 16th) in its editorial columns thus enumerates some of these conditions: —

"First, as regards the heart, an organ which is inclined early to show signs of disturbed action. The fatty heart, as distinguished from the fattily degenerated heart, is affected, according to Leyden, in three degrees of severity. In the first there is simply a thick layer of adipose about the organ; in the second, with the fatty deposit there is a softening or relaxation of the muscles, dilatation of the cavities, and enfeeblement of action. In the third form there is combined

with the fatty heart an arterial sclerosis. The symptoms in the higher grades of fatty heart resemble considerably those of fatty degeneration, and need not be here enumerated. Kisch has made sphygmographic tracings in four hundred cases of fatty heart with the following result: In thirty-six per cent. of cases there was a *pulsus tardus;* in thirty-two per cent. of cases the pulse varied from one of a slightly to one of a completely dicrotic character; in twenty-four per cent. of cases an increase of tension from arterial sclerosis was shown; in four per cent. of cases there was simple arythmia. The value of these examinations is, of course, slight of themselves. It is to be assumed, though it is not stated, that the patients had no valvular disease of the heart and no kidney lesions.

"As regards the respiratory organs, Kisch found in many cases bronchial catarrhs. Naturally such symptoms as dyspnœa, and even pseudo-angina, were frequent.

"The digestive organs of the obese are very likely to be deranged. Gastro-intestinal catarrh, dyspepsia, constipation, hemorrhoids are present, and are due partly to dietetic errors, partly to the weakness of the heart and the incapacity or disinclination on the part of the patient to take sufficient exercise. An enlarged and fatty liver is of frequent occurrence, but its existence is not easy to make out by physical examination.

"Urates, uric acid, and oxalate of lime are found in the urine. It is well known also that the obese are liable to glycosuria, and Kisch found sugar in the urine of many of his patients at periodic or irregular intervals.

"Owing to the increased activity both of the sweat and the sebaceous glands, fat persons are subject to 'catching cold' and to attacks of rheumatism. Such skin diseases as boils and carbuncles are relatively frequent.

"The bodily temperature shows an inclination to mount up, and in fevers the corpulent burn actively. Their feebler resistance to fevers was first pointed out by Hippocrates. Liebermeister states that they are less amenable to antipyretic measures.

"Parallel with increase of fat is a decrease of sexual appetite and sexual power. Kisch found in several cases absolute azoospermia. Women are inclined to amenorrhœa and sterility. Among two hundred and fifteen obese women Kisch found forty-nine cases of amenorrhœa, one hundred and nineteen of scanty menstruation, and forty-nine of sterility.

"The blood of the obese is poor in red blood-corpuscles. Obesity is, in fact, a disease of diminished and perverted oxidation. There are not only too few red corpuscles, but there is too much water and an excess of fat."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 23, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	756	376	34.84	11.96	24.96	1.95	1.82
Philadelphia	927,995	383	169	16.20	10.80	4.32	4.32	1.60
Brooklyn	644,526	308	164	37.76	12.16	29.12	—	3.52
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	218	100	38.64	14.72	23.92	2.30	2.76
Baltimore	408,520	163	79	32.94	12.20	17.08	3.66	5.49
St. Louis	400,000	173	78	33.06	7.54	18.56	2.90	3.48
Cincinnati	272,400	113	48	26.70	9.79	16.91	5.34	.89
New Orleans	234,000	121	35	17.35	1.65	5.78	—	.83
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	104	51	25.92	16.32	18.24	3.84	—
Pittsburg	180,000	76	48	52.80	3.96	34.32	3.96	7.92
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	44	25	53.21	6.81	36.32	2.27	—
New Haven	62,882	30	13	43.33	10.00	29.99	10.00	—
Nashville	54,400	36	11	44.32	11.00	15.39	5.44	8.11
Charleston	52,286	28	9	25.00	17.85	14.28	3.57	3 57
Lowell	71,447	—	—	—	—	—	—	—
Worcester	69,442	32	15	46.95	9.39	40.69	—	—
Fall River	62,674	40	22	40.00	5.00	32.50	—	—
Cambridge	60,995	—	—	—	—	—	—	—
Lawrence	45,516	13	6	23.07	23.07	23.07	—	—
Lynn	44,895	17	6	35 28	5.88	23.52	5.88	—
Springfield	38,090	13	8	23.07	23.07	23.07	—	—
Somerville	31,350	8	3	50.00	25.00	25.00	12.50	—
Holyoke	30,515	6	2	16.66	50.00	16.66	—	—
New Bedford	30,144	16	8	50.00	6.25	37.50	6 25	6.25
Salem	29,503	18	14	44.44	16.66	44.44	—	—
Chelsea	24,347	12	5	50.00	—	41.66	—	—
Taunton	22,693	12	7	41.66	16.66	25.00	8.33	—
Gloucester	21,400	7	3	14.28	14.28	—	14.28	—
Haverhill	20,905	11	5	54.54	—	27.27	9.09	9.09
Newton	19,421	5	3	40.00	40.00	40.00	—	—
Brockton	18,323	8	2	25.00	25.00	25.00	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	3	1	—	—	—	—	—
Fitchburg	13,433	5	3	80.00	—	60.00	—	—
Eighty-seven Massachusetts towns	339,789	73	30	53.43	17.81	49.33	—	1.37

Deaths reported 2852 (no reports from Buffalo and Milwaukee): under five years of age, 1349; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 951, diarrhœal diseases 636, consumption 334, lung diseases 142, diphtheria and croup 72, typhoid fever 73, whooping-cough 53, malarial fevers 48, scarlet fever 29, cerebro-spinal meningitis 13, measles 11, erysipelas 11, puerperal fever four, small-pox one. From *whooping-cough*, Boston 10, New York nine, Philadelphia seven, Brooklyn and Baltimore five each, Milwaukee four, District of Columbia and Pittsburg three each, Cincinnati, New Haven, Worcester, Lynn, Springfield, Haverhill, and Fitchburg one each. From *malarial fevers*, New York 16, New Orleans 11, St. Louis 10, Brooklyn and Baltimore four each, Nashville two, Charleston one. From *scarlet fever*, Philadelphia six, New York five, Brooklyn four, Boston three, Baltimore, Cincinnati, Pittsburg, and Lawrence two each, St. Louis, New Orleans, and Providence one each. From *cerebro-spinal meningitis*, New York three, Fall River and Woburn two each, St. Louis, Cincinnati, Worcester, Providence, Chelsea, and Taunton one each. From *measles*, New York seven, Philadelphia, Brooklyn, St. Louis, and Fall River one each. From *erysipelas*, New York six, Brooklyn two, Boston, St. Louis, and District of Columbia one each. From *puerperal fever*, Nashville two, New York and Philadelphia one each. From *small-pox*, New Orleans one.

Cases reported in Boston: scarlet fever 41, typhoid fever 30, diphtheria 21, and measles two.

In 106 cities and towns of Massachusetts, with an estimated population of 1,264,429 (estimated population of the State 1,955,104), the total death-rate for the week was 20.93 against 22.4 and 20.44 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,620,975, for the week ending August 9th, the death-rate was 21.9. Deaths reported 3670: acute diseases of the respiratory organs (London) 187, diarrhœa 585, measles 92, whooping-cough 75, scarlet fever 70, fever 45, diphtheria 22, small-pox (London 16, Liverpool and Sunderland two each, Hull and Cardiff one each) 22. The death-rates ranged from 14.8 in Bristol to 30.2 in Bolton; Birmingham 22.5; Bradford 16.7; Huddersfield 17.6; Leeds 23.1; Leicester 27.5; Liverpool 25.9; London 21.1; Manchester 22.1; Nottingham 22.6; Sheffield 21.9. In Edinburgh 16.5; Glasgow 24.4; Dublin 22.4.

For the week ending August 2d, in the Swiss towns, there were 52 deaths from diarrhœal diseases, consumption 30, typhoid fever 11, lung diseases eight, diphtheria and croup three, small-pox one, measles one, whooping-cough one. The death-rates were, in Geneva 18.3; Zurich 15.8; Basle 26.3; Berne 21.1.

For the week ending August 9th, in the Swiss towns there were 48 deaths from diarrhœal diseases, consumption 30, typhoid fever 19, lung diseases 11, puerperal fever three, diphtheria and croup two, whooping-cough one, erysipelas one. The death-rates were, in Geneva 18.3; Zurich 25.6; Basle 17.8; Berne 22.2.

The meteorological record for the week ending August 23d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
August, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 17	30.080	74	62	59	92	64	92	83	SW	SW	SW	1	9	13	F	C	C	—	—
Mon., 18	30.056	79	94	68	88	53	94	82	W	SW	SW	6	8	6	C	C	C	—	—
Tues., 19	30.097	67	74	62	97	99	100	99	NE	SE	SE	6	6	4	O	F	G	—	—
Wed., 20	30.018	70	77	64	100	84	97	94	SE	SE	SW	2	7	3	F	C	C	—	—
Thurs., 21	29.992	78	85	70	83	73	82	79	SW	SW	SW	15	11	9	F	F	F	—	—
Fri., 22	29.954	74	86	67	94	76	99	90	SW	S	W	10	11	3	O	C	O	—	—
Sat., 23	29.895	72	81	66	88	65	93	82	W	W	SW	5	11	8	O	F	C	—	—
Mean, the Week.	30.013	73.4	80	66				87.0										—	—

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY FROM AUGUST 22, 1884, TO AUGUST 28, 1884.

HEAD, JNO. F., colonel and surgeon. Granted leave of absence for four months. S. O. 201, A. G. O., August 27, 1884.

WOODHULL, A. A., major and surgeon. Detailed as member of Medical Examining Board at U. S. Military Academy, West Point, N. Y., vice Captain R. H. White, relieved. Upon adjournment of the Board to return to his proper station. S. O. 201, C. S., A. G. O.

LIPPINCOTT, HENRY. Promoted major and surgeon. To rank from August 17, 1884, vice Woodward, deceased.

BARTHOLF, J. H., captain and assistant surgeon. Relieved from duty in Department of the Columbia, and to report in person to commanding general, Department of Texas, for assignment to duty. S. O. 199, A. G. O., August 25, 1884.

FINLEY, J. A., captain and assistant surgeon. The leave of absence granted him in S. O. 91, C. S., Department of Texas, extended two months. S. O. 198, A. G. O., August 23, 1884.

CRAMPTON, LOUIS W., captain and assistant surgeon. To report at Creedmoor, L. I., N. Y., not later than August 30th, as competitor, and, in addition thereto, as medical officer of the detachment of competitors. S. O. 41, Division of the Atlantic, August 20, 1884.

TAYLOR, M. E., captain and assistant surgeon. Granted leave of absence for four months, to take effect on arrival of a medical officer at Davids' Island, N. Y., to replace him. S. O. 200, A. G. O., August 26, 1884.

COCHRAN, J. J., first lieutenant and assistant surgeon. Assigned to duty at the Presidio of San Francisco, Cal. S. O. 81, Division of the Pacific, August 16, 1884.

FISHER, W. W. R., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Cochran to report in person to commanding general, Department of Arizona, for assignment to duty in that department. S. O. 81, C. S., Division of the Pacific.

MCCAW, WALTER D. Appointed assistant surgeon, with rank of first lieutenant, to date from August 20, 1884.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting — and the first after the summer recess — will be held at the Medical Library Rooms, 19 Boylston Place, on the second Thursday of September, at four o'clock, P. M. The profession are cordially invited.

HENRY M. FIELD, M. D., *Secretary*.

DIED, — August 25, 1884, John Homer Dix, M. D., M. M. S. S., of Boston.

BOOKS AND PAMPHLETS RECEIVED. — Text-Book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania. Philadelphia: P. Blakiston, Son & Co. 1884.

Lectures.

SOME OF THE EFFECTS OF ALCOHOLISM.[1]

A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL.

BY EDWARD T. BRUEN, M. D.,

Physician to the Hospital and Demonstrator of Clinical Medicine in the University of Pennsylvania.

GENTLEMEN, — I shall this morning ask your attention to a couple of cases which illustrate a form of disease of which we see a great deal in this hospital, namely, some of the phases of alcoholism.

In order to thoroughly understand what I am about to say, it will be necessary to preface my remarks by briefly alluding to the physiological action of alcohol. Alcohol, as far as its effect on the nervous system is concerned, is a stimulant in ordinary doses, but in very large amounts it has a paralyzing effect on the nervous centres. When alcohol is suddenly withdrawn from a person who has used it habitually, the same instability of the nerve centres is produced as when other stimulants are withdrawn. The local effect of alcohol upon the tissues is twofold: it produces sclerosis of the connective tissues of the body; the coats of the arteries and the connective tissue of the liver and kidneys are most involved; the connective tissue of the liver is markedly affected, because the alcohol being absorbed from the digestive tract is carried directly to the liver. Next to this effect upon the connective tissues alcohol establishes a universal fatty degeneration, which primarily affects the liver, perhaps for the reason mentioned above. Next to the liver the heart suffers most profoundly. The fatty deposits in the connective tissues are increased, and finally the cells lining the tubules of the kidneys become involved. Along with this, and as a part of the cause of the fatty change, we have the change in the crasis of the blood. The corpuscular elements of the blood are affected partly by the prejudicial local influence of alcohol upon the digestive tract and also by the effect which alcohol exerts on the heart. Alcohol used habitually as a beverage, and especially if taken on an empty stomach, is capable of producing an irritating effect on the mucous membrane of the gastro-intestinal canal, which may be so extreme as to amount to an actual inflammation, and there is produced a chronic intestinal catarrh, with its secretion of mucus and cells, and with an imperfect elaboration of the gastric and intestinal juices and consequent dyspepsia. The malassimilation of the food which is engendered by this chronic catarrh of the intestinal canal interferes with hæmatosis, and the corpuscular elements are poorly elaborated. These corpuscular elements also suffer from the effect upon the heart, since if the heart is weak and unable to propel the blood thoroughly throughou the system the circulation in the chylopoetic viscera is impaired, and as a result the elaboration of the blood is defective.

Alcohol has a special tendency to produce certain symptoms referable to the nervous system which are frequently incorrectly attributed to inflammation of the membranes of the brain. Alcohol has no particular tendency to produce active inflammation of the membranes of the brain, although it is liable to produce chronic nutritive changes in these membranes. What are these changes? They consist rather in thickening of the connective tissues in the membranes, and should be classed with the effects of alcohol on the connective tissues in general to which I referred a moment ago. The evidences of habitual alcoholism are found in thickening of the dura mater, in its adhesion to the skull, and often in an increase of the Pacchionian bodies. Next to this is found thickening of the pia mater, often associated with congestion of the brain. The arachnoid membrane also often presents a milky-white appearance because it is lifted up by the serous exudation beneath it. The brain undergoes hardening from the increase of its connective tissue which is associated with atrophy of the brain substance. Hæmorrhage into and softening of the brain consequent on the diseased state of its blood-vessels is possible. We are now, I think, in a position to proceed to the study of these cases.

This man, D. C., has been drinking ever since he was a boy, and will illustrate one of the effects of both acute and chronic alcoholism, namely, delirium tremens. He was admitted on the 18th of this month (five days ago) in the condition known as alcoholic delirium. In addition he had epileptiform convulsions, and he did not sleep from the time of admission until the night of the 21st. During this period of insomnia he was subject to the peculiar delirium of this affection, seeing spectres, shapes, animals, etc., and was exceedingly violent and anxious to get out of bed. If he had been allowed to do so he probably would have injured himself or others in his efforts to get away from the horrors which surrounded him.

As far as the diagnosis is concerned it is usually based on a good history. Insanity is characterized by delusions, not mere terrors or hallucinations. Acute alcoholic coma often precedes an attack of delirium tremens. A good history is perhaps about the best guide, unless some of the contents of the stomach is obtained and analyzed. The uræmic condition is the one which usually has to be eliminated. Uræmia, as a rule, is not attended with the fanciful delirium of delirium tremens, but more often with stupor and coma. The next thing to be done after obtaining the history is to examine the urine and the condition of the heart. Usually, in chronic renal disease the heart is hypertrophied and the examination of the urine will give important data. In reference to the diagnosis between delirium tremens with stupor and apoplexy the only point which is of special value is the recognition of some local paralysis. A patient suffering from alcoholic coma suffers from a general paralysis, or rather a paresis, but in a patient suffering from hæmorrhage into the brain there is usually paralysis of the arm, leg, face, tongue, or some other part.

What is the next most important point clinically? It is to determine whether the attack in which the patient is seen is the first or whether there have been many attacks. This has an important bearing on the treatment. Usually this information can be obtained without much difficulty. We shall suppose a case of a man on a drinking bout; he has not eaten food, and during this "spree" he has suddenly stopped drinking, or while drinking he has been subjected to some unusual excitement or acute disease, and delirium tremens has supervened. It is the first or second attack. In such a case, as also in the one before us, it is reasonable to infer that the extreme effects of alcohol upon the

[1] Reported by William H. Morrison, M. D.

tissues are not present. The heart is probably sound, and the connective tissues not especially involved.

What shall be done? The most important thing to remember is that delirium tremens is a disease which is usually self-limited. I have seen people killed by remedies because the physician forgot that this was a self-limited disease. The patient should in the first place be put in a room by himself, under conditions of perfect quiet. He should have an attendant to sit by him during the entire time that he is under treatment. The duty of this attendant should be to administer to the patient nourishing food at short intervals, combined with such stomachic stimulants as will increase the ability of the patient to assimilate it. This food should be of the most nourishing and assimilable character, and should consist of such articles as strong beef broths strongly impregnated with pepper, and eggs beaten up with milk.

If the patient cannot sleep there are two or three measures which can be adopted. One of these is to use bromide of potassium and chloral. Feed the patient during the day, and when night comes give five grains of chloral every five minutes until twenty grains have been taken, and the cumulative effect of these successive doses will often induce sleep when a single dose of twenty grains would have no effect. With the divided doses of chloral one drachm or more of bromide of potassium may sometimes be combined. If this treatment produce a couple of hours or more of sleep, then the same amount of chloral may be repeated. I do not recommend the large doses of twenty grains repeated every two hours until a drachm is taken, for the heart may be weak from paralysis of innervation although not from degeneration, and it may be arrested by too large a dose of chloral.

Suppose, however, that the patient does not sleep under the use of chloral and bromide of potassium, what shall be done? In an acute case in a reasonably strong person in whom the pulse is not over 100 per minute the following plan may be adopted: Give three doses of the following mixture at intervals of two hours: —

℞ Pot. et antimonii tart. . . . . gr. ¼th.
Tinct. opii . . . . . gtt. v. ad. viij.
Aq. camphoræ . . . . . ʒi.

This will often be successful not only in the alcoholic delirium, but also in forms of delirium in the sthenic forms of fever. The depressing effect of the tartar emetic if excessive can be counteracted by a little alcohol. It is much safer to employ this treatment than to give morphia hypodermically, or two or three large doses of laudanum, as is frequently recommended. I deprecate the free use of opium in cases of acute delirium tremens.

There is another thing which may be done. Often the patient, instead of being in a state of delirium, will have "the shakes," and be on the verge of delirium tremens. I am still speaking of acute cases. Such a patient will come to you and state that he has been on a spree; that he cannot sleep; that he hears sounds and sees sights; that he is nervous, and has no appetite. Here, again, I should deprecate the use of opium. Such a case should be treated on the same principles which I have already given. The excitement of the nervous system must be allayed, and sleep must be induced. To increase the appetite I often use a prescription like the following: —

℞ Morphiæ sulph. . . . . gr. i. vel ij.
Tinct. quassiæ,
Tinct. calumbæ,
Tinct. cinchonæ comp.,
Tinct. gentianæ comp., } . . . . . ää ʒi.

Sig. One teaspoonful three or four times a day, one hour before meals.

The effect of the combination of two or three bitters is often better than that of either one alone. The use of morphia, in small amounts, allays the irritability of the stomach, does not interfere with digestion as much as opium, and in the above dose it acts as a species of stimulant to the nervous system.

Let us now turn to the next patient, P. B., who was admitted six days ago. He has also been drinking, more or less, ever since he was a boy, but in his case the attack of delirium tremens supervened nearly a week after he had ceased to use the alcohol. I shall, therefore, take this opportunity to allude to the chronic form of delirium tremens. What should be done? The patient should, as before, be put in a room where he will have perfect quiet, and alimentation should be, as before, of primary importance. In these cases the weakness of the heart is to be feared, and it is, therefore, not proper to use chloral or the bromides so freely as in acute cases. The patient should be fed during the day, and at night be given a single good dose of morphia hypodermically. If the pulse should be very weak, and above 100 or 120, it will be necessary to administer small amounts of alcohol and also digitalis, because you wish to avoid all tendency of the stupor to pass into coma. Sometimes small stimulant doses of opium every three hours are useful. Coma frequently supervenes because the weak heart fails to propel the blood thoroughly throughout the body, and especially through the brain, and there is thus produced a tendency to venous congestion of the brain. Digitalis prevents this by bettering the circulation; alcohol also assists this end, and is to be used with judgment.

Leaving this matter of delirium tremens, let us consider another aspect of this second case. Mark the flabby features of the patient, the patches of acne rosacea about the nose and mouth. Since the subsidence of the delirium tremens he has been suffering with cramps in the stomach, slight jaundice, and congestion of the lungs, and the tongue has been thickly covered with fur; some vomiting in the morning, slight vertigo, and dull headache. His pulse has been 140 per minute, almost too weak to be counted, and the first and second sounds of the heart have been almost inaudible. The explanation of these symptoms is connected with the lesions of chronic alcoholism to which I alluded at the beginning of the hour, namely, the degeneration of the heart and paresis of the nervous system. The congestion of the lungs was due to the weak heart failing to propel the blood through them, and it was recognized by the harsh breathing, the presence of a few râles, and the impairment of resonance on percussion. The jaundice and the furred tongue was attributable to the imperfect circulation of the blood through the liver and digestive tract. In some of these cases albumen is found in the urine, although in this particular instance it was absent. These patients sometimes have convulsions, but the explanation of their origin is entirely different from that of the convulsion which the first patient had.

Patients suffering with delirium tremens may have convulsions which are epileptiform in character, and

due simply to the effect of alcohol on the nervous system. In our first patient the convulsions were probably of this character. They may also have convulsions which are uræmic, due to suppression of the renal function.

How is the diagnosis between these two forms of convulsions to be made? It is very simple. The uræmic convulsion is preceded by a reduction in the amount of or suppression of the urinary secretion and the presence of albumen in the urine. In the epileptiform convulsion there may also be albumen in the urine, but the amount of secretion is nearly normal; the skin is moist; the pupils are usually not contracted; and the breathing is not very deep or stertorous, for if the patient is suffering from uræmia there is a tendency to take deep breaths in order to aerate the blood. I know of no more constant single sign of approaching uræmia than this deep breathing. With the epileptoid convulsions the patient may breathe naturally or, if in a state of coma, he may breathe slowly, but there will not be this deep stertorous form of breathing.

What is the proper treatment of a case subject to the effects of alcohol with congestion of all the internal organs and degeneration of the tissues? The treatment of this case is somewhat typical. The first thing to be done is to administer stimulants to act upon the organ whose function is most important, namely, the heart. This patient was given alcohol and digitalis. A saline purge was also administered. As soon as the circulation was somewhat reëstabiished he was given a small dose of calomel combined with the benzoate of ammonium. This drug is a very valuable agent in congestion of the liver, with slow digestion. The effect of the ammonium is anti-plastic and resolvent in cases of slight catarrh of the duct, and at the same time it favors the elimination of the products of retrograde metamorphosis of the tissues, which are carried off by the urine. The proper plan of using this drug is to give ten or fifteen grains in the evening, to be followed in the morning with a purge. In some cases it is necessary to repeat this treatment every other day for a week. Although it is designed to substitute this drug for calomel it may be associated with calomel if desired.

The bitter tonics are useful according to the prescription already given, omitting the morphia.

Under what circumstances do these alcoholic affections become dangerous and the prognosis unfavorable? Broadly speaking it is when the tissues are found to be in a state of degeneration. A careful study should be made of the kidneys, the heart, the arteries, the liver, and digestive tract. There is also grave risk of acute pulmonary complications, such as pneumonia. Even in acute alcoholism the patient may never rally from the primary insensibility.

There is one more matter to which I desire to allude, and this takes me back to a point to which I referred at the beginning of the hour. Patients are often supposed to suffer from meningitis because the cerebral *tâche* can be produced. You see the red line which appears when I draw my finger across the abdomen. Sometimes this line will follow the passage of the finger across the forehead. These *tâches* appear in typhoid fever, in typhus fever, or in conditions analogous to the typhoid state. The point which I wish to impress is that the *tâche* does not always indicate cerebral inflammation. It can be produced by weakness of the heart and venous congestion, so that when the blood is pressed from the capillaries by the passage of the finger across the skin the capillaries are slow in again filling up. The *tâche* is, therefore, not always an indication of cerebral inflammation, and the cerebral symptoms present in cases of alcoholism are not, as a rule, attributable to acute inflammatory conditions.

Original Articles.

A CASE OF SUPPOSED EXTRA-UTERINE PREGNANCY TREATED BY ELECTRICITY.

BY FANNY BERLIN, M. D.

ALTHOUGH cases of extra-uterine gestation are by no means a rare occurrence, and reports of such not at all scanty, the fact always remains that the anomaly is of so interesting and grave a nature that a detailed report of another case may not be without interest to the profession. I here wish to state that I am greatly indebted to Dr. J. R. Chadwick for his courteous advice to publish the case, as well as for his kind suggestions with regard to the literature of this subject.

Mrs. Caroline H., aged forty, has given birth to eight children, five at full term and three prematurely; miscarried once. Always menstruated very profusely, and since the birth of her last child, in 1881, very irregularly, about once in two or three weeks. In May, 1882, she passed two pieces of membrane from the uterus, after much pain. Her attending physician at that time told her it was a miscarriage. In December of the same year she passed a cast of the uterus, which was accompanied by a great deal of bearing-down pain and considerable flowing. This membrane she brought to the New England Dispensary for Women and Children during one of the days of my attendance there. She complained of feeling miserable generally, but on internal examination nothing abnormal could be ascertained, except a slightly retroverted, apparently normal-sized uterus. The membrane presented a perfect cast of the body of the uterus from the commencement of the Fallopian tubes to the os internum.

In January, 1883, she menstruated for four days. The last of February she passed another cast of the uterus, similar to the first one, which she again brought to the Dispensary, but as she was flowing quite a little then she was sent home without any internal examination, and as she lived at a very great distance from the Dispensary she was advised in case of need to call a physician who lived near her residence. From that time until she came again under our observation she remained under the care of Dr. E. G. West, and I will present here in a condensed form the report of the case while under his charge, with which he has kindly furnished me: —

On the 6th of March, 1883, Dr. West was called to see the patient, who was in bed, suffering from severe colicky pains in the abdomen, particularly in the left iliac region. She was flowing, which continued for the next few days. Her temperature was 101° F.; pulse between 100 and 110 per minute. An internal examination caused so much pain that it could not be made thoroughly. No distinct mass was felt, but "local peritonitis" was evident. She was suffering greatly from severe ischuria and pain during defecation. The treatment consisted of morphia administered internally and

subcutaneously when there was an exacerbation of pain, hot vaginal douches, and flaxseed poultices to the abdomen. Under this treatment the symptoms abated gradually until the 21st of March, when she was again taken suddenly with an exacerbation of all the symptoms which were present on March 6th. This time she suffered more from the difficulty in urination and during a movement of the bowels, as this latter process was sorely complicated by the presence of hæmorrhoids.

On the 5th of April there was another very severe exacerbation of all the symptoms, although the remission during the last two weeks was not as great as that during the first two attacks. On the 15th of April Dr. West made an internal examination, and then *for the first time* discovered a tumor the size of the body of the uterus in the posterior cul de sac, which seemed fixed and attended by considerable pain when manipulated. The doctor watched the symptoms for two weeks longer, and as there was no change in the condition of the patient, and it was about time for another periodical exacerbation, he called Dr. J. R. Chadwick in consultation on April 28th, and called me on the 29th. We all met on the 1st of May, and found the following condition of affairs: —

The patient looked quite anæmic; pulse good, normal. No rise in the temperature of the body. The abdominal walls were very relaxed and easily permitted us to feel through them a tumor the size of a uterus in the fourteenth week of pregnancy. It was located more towards the left hypogastrium, and was of roundish shape, of elastic consistency, with a nodular projection on its left side, which seemed especially sensitive to pressure. On internal examination the posterior cul de sac, especially its left half, was found to be occupied by a mass, which crowded the uterus forward and towards the right side. Combined internal and external examination allowed the uterus to be distinctly felt in front of the mass and pushed by it to the right side. The cervix uteri was almost obliterated, and tightly pressed against the symphysis pubis. The uterus seemed larger than normal, although the sound for measuring the cavity was not used at that time. The surface of the mass felt somewhat uneven; there was no decided fluctuation to be felt, except that one spot posteriorly, about the size of half a dollar, with rough and nodular edges, gave the feeling of being very much thinner than the rest of the mass, and through it distinct fluctuation could be felt. In several places on the surface of the tumor pulsations were noticeable. The same condition was ascertained through examination made by the rectum. The patient complained of nausea and faint feelings at every attempt to rise. She thought herself pregnant, as many of the symptoms reminded her of her previous pregnancies.

Taking into account the whole course of the woman's illness, the irregular hæmorrhages, the discharges of the deciduæ, the violent, colicky pains, the presence of the elastic tumor, the enlarged and separately defined uterus, the symptoms of local peritonitis, and last, but not least, the woman's own belief that she was pregnant, the diagnosis of extra-uterine pregnancy, probably graviditas tubaria, in the fourth month, was suggested by Dr. Chadwick, and electricity as a means for the destruction of the fœtal life before another exacerbation of the symptoms set in agreed upon. For this purpose the patient was transported to the New England Hospital for Women and Children, and the following day the application of electricity was begun. The first application was given with the constant current on the 2d of May. One pole was applied to the mass through the vagina and the other externally through the abdominal walls. The strength of the current varied from two to eighteen cells, and the interruptions were quite rapid. The time during which the galvanism was applied lasted twelve minutes. She complained bitterly of its hurting her, especially every time the number of cells was increased. The application was repeated the following day, but the patient commenced to flow soon after it quite profusely, and it was considered best to wait until the flow had subsided. The 13th of May the flow ceased and galvanism was again resumed, and the applications repeated the 15th, 17th, 19th, and 22d. Neither during nor after these applications could any change be noticed in the shape or size of the mass, or in the pulsations of the vessels. It was decided then to cease with the applications of galvanism and await further developments in the case.

The 1st of June menstruation set in again. She was at that time feeling quite comfortable, her general health had improved greatly, the pains had almost entirely disappeared, but the tumor still remained unchanged. At about that time the uterine sound was carefully introduced and the uterine cavity found to measure four inches. The attending physician at the hospital at that time, Dr. Helen Morton, into whose charge she had passed, ordered her 0.5 of iodide of potassium, to be repeated three times daily, which she continued to take until the middle of September.

The 9th of July she was dismissed from the hospital to be under outside observation. I saw and examined her at her home the 11th of August, and found the mass decreased to about half its former size. A second examination, on the 25th of August, showed it still decreasing in size. On the 19th of October nothing but a small portion of the former mass could be felt in the posterior cul de sac, towards its left half, in the shape of a soft, flat, glandular-like body, rather sensitive to the touch. The uterus was anteverted and still somewhat larger than normal. Extending from its left and upper end was to be felt a sausage-shaped body, the thickness of a finger, of a distinctly fluctuating character, whose end lay closely over the flat, glandular body above mentioned. It gave the impression of being the left Fallopian tube, probably dropsical. The 9th of February, 1884, Dr. Chadwick kindly examined the woman with me and corroborated the above-described condition of the pelvic organs.

The case is of interest principally for two reasons: (1.) With regard to the diagnosis: Was it justifiable to suppose extra-uterine gestation as the existing condition in this case? The diagnosis of extra-uterine fœtation in the first three or four months is under any circumstances difficult to make with absolute certainty. It is interesting to follow the different authorities with regard to this question. Thus, for instance, Parry, in his excellent work on Extra-Uterine Pregnancy, expresses himself: "If with the woman's conviction that she has conceived are associated colicky pains, located in the hypogastrium, or one iliac fossa, of the most severe character, producing collapse more or less profound, with or without syncope; if these pains come on in paroxysms or have violent exacerbations at more or less regular intervals, with a bloody discharge from the uterus, the existence of extra-uterine pregnancy should always be suspected. If symptoms of abortion super-

vene with the discharge of a decidua, or if the phenomena of rupture of the cyst follow the symptoms just enumerated, it is the duty of the woman's medical adviser to treat her as if she were carrying an extra-uterine child."[1]

According to Hennig[2] the diagnosis of graviditas tubaria is composed of two parts: (1) the recognition of existing pregnancy, and (2) of the "seat" of the impregnated ovum. In most cases pregnancy can be recognized only through probable symptoms, as it rarely reaches that time when all the pathognomonic symptoms are present, namely, fœtal movements, pulsations of the heart, recognition of fœtal parts. Even the discharge of a decidua is not an entirely sure sign, as membranes are discharged during different diseases of the uterus and general disturbances.

Wyder[3] describes a case of extra-uterine gestation, and gives a detailed account of the macro- and microscopical appearance of the discharged decidua. He asserts that the mucous membrane of the uterus, when pregnancy, intra- or extra-uterine, exists, has a specific structure, which is manifestly different from the structure of dysmenorrhœic membranes, or membranes discharged when endometritis exists. It consists mainly in the different form of the elements composing the interglandular tissue; this latter under normal and other pathological conditions consists of small, round cells, with scanty protoplasm, whereas it presents even in the commencement of pregnancy a very characteristic, large, variously shaped cell, surrounded by an abundance of protoplasm. Wyder thinks that by means of the examination of such a membrane alone the diagnosis of pregnancy can be accepted or excluded. The thick, fleshy membranes which our patient discharged from the uterus presented at least macroscopically the same appearance as the membrane described in Wyder's case. Unfortunately no satisfactory microscopical examination was made, and it therefore cannot be utilized as a positive symptom. However, Ernst Fränkel[4] goes so far as to deny the existence of any pathognomonic symptom in extra-uterine gestation, as all the symptoms belonging to that condition are very variable, except, of course, in cases of advanced pregnancy, when together with an empty uterus the presence of a fœtus can be ascertained. Ruge[5] and Möricke[6] have both demonstrated the existence of the specific looking interglandular cell in membranes discharged during other conditions besides extra-uterine pregnancy, — in endometritis, especially of the chronic form; in endometritis complicating myoma; also in membranous dysmenorrhœa. Thus we see that this one symptom alone of extra-uterine gestation is only of importance in confirming the diagnosis when the anamnesis, course, and present clinical condition of the case present the other rational symptoms of this anomaly, and also when other affections with which it may be confounded can be excluded. These are: hæmatocele, rapidly developed ovarian cyst, and retroverted, pregnant uterus. This latter condition could with certainty be excluded in our case, as the uterus could distinctly be felt in front of the mass, and subsequently, by introduction of the sound, was found to be empty. The very short time within which the tumor appeared, as there was nothing abnormal to be felt in December, and the attending physician noticed a "swelling" for the first time the middle of April, would speak against its being an ovarian cyst. Then, again, the uterus was enlarged, a condition not common in ovarian cysts, but a valuable symptom for extra-uterine pregnancy. Further, the general symptoms of the case — the hæmorrhages and exacerbations of pains, the symptoms of the bladder and rectum — all these speak distinctly and decidedly in favor of extra-uterine gestation.

The differential diagnosis between extra-uterine pregnancy and hæmatocele is not so easy to make, and the two have frequently been confounded by very experienced gynæcologists. Scanzoni[7] says there are no general signs of recognition between those two affections on account of the great variability of the symptoms of extra-uterine pregnancy. But here also we can take recourse to the difference between the separate signs. The uterus is enlarged and separated from the tumor in extra-uterine gestation, but is almost always blended with the tumor and not enlarged in hæmatocele. Of great importance is the character of the pains, intense, colicky, and in pretty regular paroxysms, — signs not prominent in hæmatocele. If in addition to these differential points we add the woman's own belief that she was pregnant, — and this is certainly not to be overlooked in a woman who has given birth to so many children, — we may, with a great deal of certainty, exclude hæmatocele from our diagnosis.

The second point of interest in the case is with regard to the treatment pursued, and the satisfactory result which ought, in all probability, to be attributed to it. It is a singular fact that this mode of treatment, although first used by Dr. T. G. Allen fifteen years ago for this purpose,[8] has had, until quite recently, so few followers who were willing to try its efficacy. Hardly any mention of it is made in the literature on this subject published in Europe. Thus in a report of twelve cases of extra-uterine pregnancy by W. A. Freund[9] the author advises for treatment in the first three months puncture of the sac and injection of morphia. If the sac rupture spontaneously in consequence *no* operation is advised, and as such cases, in the author's experience, only rarely die, even when the symptoms are very alarming, he does not advise operative interference, and simply treats the threatening symptoms of anæmia and peritonitis. Mention is made in Case IX. of a weak current of electricity being applied to the tumor by the house physician, after which the patient perceived no more movements, the tumor decreased markedly in size, and the woman recovered. In this country, however, within the last few years, considerable attention has been given by prominent men in the profession to the use of electricity in extra-uterine pregnancy. Dr. Henry J. Garrigues, in a paper published in the Transactions of the American Gynæcological Society for 1882, gives an account of a case of his own, and a synopsis of other cases scattered through literature, where electricity has been used. His conclusions are that it is a very efficient and safe agent for the arrest of the development of the fœtus in the early months, and that it seems likely that the same treatment might be used at any period of fœtal

[1] Parry, 'Extra-Uterine Pregnancy.
[2] Krankheiten der Eileiter und die Tubenschwangerschaft.
[3] Archiv für Gynäcologie, vol. xiii.
[4] Sammlung klinischer Vorträge, N. 217.
[5] Centralbl. für Gynakol., 1881, p. 287.
[6] Zeitschrift f. Gbthlk., vii., 136.
[7] Frauenkrankheiten.
[8] See T. G. Thomas, Transactions American Gynæcological Society, 1882, p. 228.
[9] Translated from the German, Transactions of the Edinburgh Gynæcological Society, 1883, vol. viii.

life. Dr. T. Gaillard Thomas, in the history of twenty-one cases of extra-uterine pregnancy,[1] gives the account of six cases in which electricity was used. All of these cases recovered. And, finally, Dr. A. D. Rockwell has published seven cases of the same anomaly, all successfully treated by galvanism.[2] In his cases, as well as in most of Garrigues' and Thomas's cases, the change of the size and shape of the sac could be noticed either immediately or in a short time after the application of electricity. We could not perceive any change either in size or shape of the mass until nearly three months later. But the mass ceased to increase in size from the day the current was applied; the subjective feelings of the patient commenced to improve very soon after, and menstruation has appeared regularly every four weeks since.

ON THE USE OF IODOFORM INSUFFLATION WITHIN THE UTERUS IN PUERPERAL SEPTICÆMIA.[3]

BY W. E. BOARDMAN, M. D.

MUCH has been said, volumes have been written, since the middle of the eighteenth century, upon the affection known, until late years, only as puerperal fever. Indeed, it may be said that no subject connected with the process of parturition has given rise to greater diversity of opinion as to its origin, nature, and treatment. Even at this day our medical journals are overflowing with the diverse views of eminent practitioners, the individual opinions of many of whom ordinarily are accepted as law in matters appertaining to the theory and practice of obstetrics. This fact, perhaps, of late years, has never been more succinctly emphasized, to our minds, than during the recent discussion of the subject by the very distinguished members of the New York Academy of Medicine. Yet I think I do not err when I state that, in the matter of the origin of the disease, the position taken by Dr. Thomas is sustained by most authorities.

At all events I am satisfied to range myself upon the side of those who believe that there is no essential puerperal fever; that the affection is a septicæmia; that the septic germs are micro-organisms which do not exist normally in the lochia or within the genital tract, but are developed in the organic substances of putrefaction under varying conditions; that these germs find an entrance into the system so as to induce two types of the same disease essentially, which may develop either separately or in common, according to the fact whether the initial lesion is one of the lymphatics, or of the veins, or of both together. Acting upon this theory it has been my practice, in the way of treatment, to attack first the original seat of the septic process, with the view of arresting the germ development within the uterus or vagina, and then to endeavor to correct the evils already induced in the system. In my previous terms of service at the Lying-In Hospital it was my custom to rely upon carbolic acid for the former purpose; but continued experience appeared to demonstrate that this agent did not always accomplish the work which most obstetricians claimed for it, and, during my service in the summer of 1883, I determined to make use of some other remedy, should the occasion seem to arise. In July such a case presented itself, and I beg leave to offer the following record of an undoubted case of puerperal septicæmia in which the septic poisoning was arrested by the insufflation of iodoform within the uterus and throughout the vagina, after ordinary methods, including intra-uterine injections of carbolic acid, had failed to stop the progress of the disease, as indicated by the gradual increase in the intensity of the unfavorable symptoms.

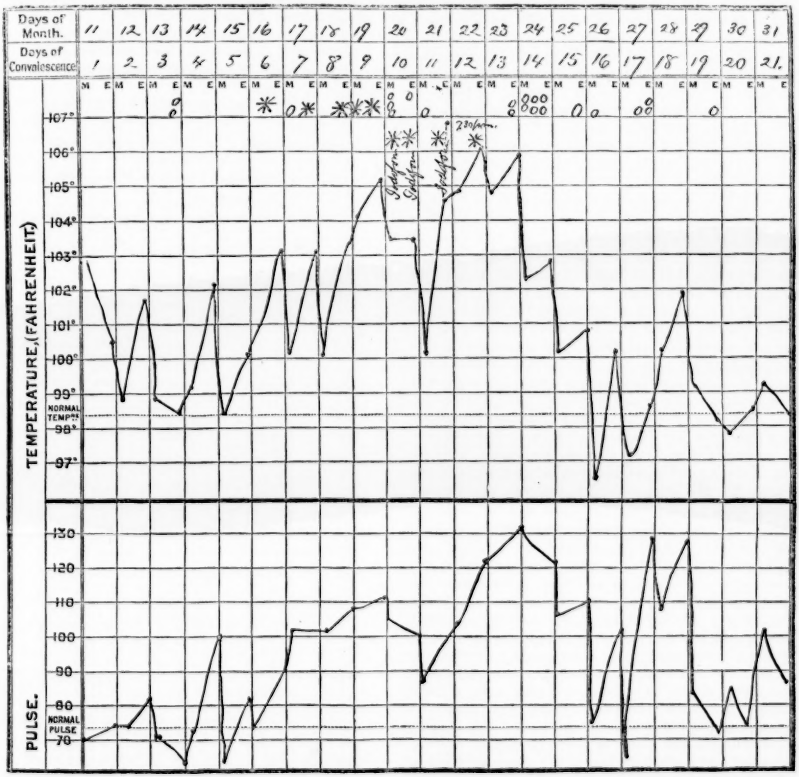
M. H., single, primipara, entered the Boston Lying-In Hospital, and was confined early in the morning of July 11, 1883. The labor was normal, vertex presentation, O. R. A., the child weighing six pounds. The perinæum was intact, and before her discharge the uterus was found to be slightly anteflexed, three inches in depth, with the cervix lacerated bilaterally.

Referring to the accompanying clinical chart it will be observed that, from the first record, taken on the morning following the completion of the labor, the temperature showed an unfavorable condition of things. During the first two days this was reduced temporarily under the use of sponge baths. On the third day it was noticed that the lochia were scanty and rather foul. Milk appeared in abundance, necessitating an efficient supporting of the breasts. On the sixth day, at eight P. M., an intra-uterine injection of a two per cent. hot carbolic solution was given on account of the offensive lochia and gradually increasing temperature, which then marked 103.2° F. A few shreds only came away, but the temperature fell to 102° F. On the seventh day the intra-uterine injection was repeated at evening, when the washings were reported to have been rather muddy and containing a few shreds. A chill followed this procedure, and it was ascertained that she had previously had "chills and fever," though the history in this respect was obscure. On the eighth day the same course was followed, except that the chill was prevented by the use of a subcutaneous injection of morphine. Still the pulse and temperature continued to rise, and on the next, the ninth, day, intra-uterines were given both morning and evening, and each furnished muddy washings with a few shreds. Yet at evening on this day the temperature reached 105.4° F. and pulse 114.

On the morning of the tenth day the temperature had fallen somewhat, to 103.6° F.; but the injection gave the same washings as before. The injection was supplemented by insufflation within the uterus and vagina of iodoform, and at evening the temperature was 103.5° F., and the insufflation of iodoform was repeated, the uterus having been thoroughly washed out with the hot carbolic solution. On the following morning, it will be observed, the temperature had fallen to 100.2° F., and the pulse had dropped from 102 to 89. On account of the patient's favorable condition and the character of the lochial discharge, the intra-uterine treatment was omitted, but repeated at evening. It will be noticed that on this evening visit the temperature had again risen to 104.6° F., and at 7.30 P. M. a temperature of 106.8° F. was recorded. At the same time the pulse began to increase in frequency, and the respirations were 30 in the minute. But the record affords good reasons, apart from the intra-uterine disease, to account for the sudden unfavorable turn of affairs. Early in the morning a small erysipelatous blush was observed over the lower sacral region. In the afternoon she complained of pain in right chest, with slight cough and viscid and reddish sputa. Ex-

[1] Transactions American Gynæcological Society, 1882.
[2] New York Medical Record, February 17, 1882.
[3] Read before the Obstetrical Society of Boston, April 12, 1884.

amination of the chest detected sibilant râles in the right mammary region and at the right base, and an explosion of fine râles after coughing; no dullness on percussion. At evening of this, the twelfth, day, the ninth and final intra-uterine injection of carbolic solution was given, the fluid coming away clear, and therefore the insufflation was omitted. The temperature was 106° F., and on the following day at the same hour 105.8° F., with a pulse of 30. From this time the lochia were no longer offensive, and ceased to appear on the fourteenth day; but the condition of the patient became and continued to be alarming for several days: in fact, it was believed that she could not possibly survive, not from active sepsis, however, for this process evidently had been arrested promptly by the iodoform. Her serious illness during these days was obviously due to the affection of the lungs and a succeeding peritonitis and diarrhœa, all of which finally induced such an extreme condition of collapse that she must have died had she not been favored by the indefatigable attention, both night and day, of Dr. Worcester, the senior house officer.



Note. The sign o indicates an injection. * indicates an intra-uterine injection of a two per cent. solution of carbolic acid. In the succeeding charts * indicates an injection of a solution of corrosive sublimate, one to two thousand.

While the history of this case in all its details of symptoms and treatment forms a most interesting record, I have not thought it best to detain the Society by its recital at length, but have endeavored to present briefly the salient points which serve to illustrate to my mind the very marked beneficial effects which were obtained by the employment of iodoform within the uterus where carbolic acid had failed to arrest the septic process, a procedure, I may add, which to my knowledge had not then been employed by others.

Reviewing the record we find that for nine days the patient gradually became worse, and evidently from septicæmia; that the intra-uterine injections of carbolic acid and accompanying internal treatment appeared to have no effect in arresting the process within the uterus, as evidenced by the character of the washings and the symptoms; that on the morning of the tenth day the insufflation of iodoform was done, with the result of an evening temperature 0.1° F. less than in the morning. At evening the iodoform was employed again, and on the following morning the temperature was 100.2° F. and pulse 89. On the evening of this day the washings had improved and iodoform was employed for the last time, though another intra-uterine injection

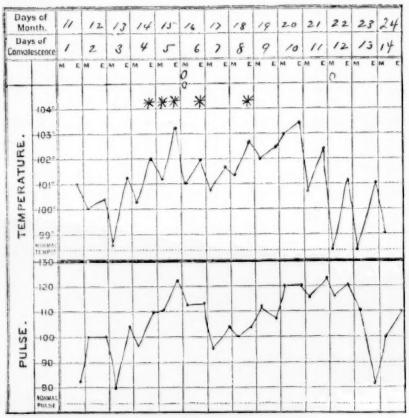
was given on the next day, on account of the unfavorable change in the patient's condition, and with the fear that sloughing within the uterus had recommenced; but the results showed that the change was due to other and new processes of disease unconnected with the uterus, for the lochia now rapidly diminished and disappeared altogether on the fourteenth day, while the new affections ran their course with alarming symptoms, which, however, she survived and was discharged well August 9, 1883, thirty days after entrance.

Remarks. As to the best method to be employed in order to do the insufflation, *cito, tuto, et jucunde*, I would recommend the use of a large-sized bottle, a modification of the one which has been devised by our associate Dr. Forster; but in place of the flexible efferent tube it is better to use a more rigid one with a terminal opening. With this one will be sure to reach the fundus and to cover the entire interior of the uterus with the powder. With the proper arrangement of the tubes within the bottle, and avoiding undue force in the compression of the bulb, there can be little or no danger of forcing air into the uterus. As to the danger from the use of iodoform in these cases, I think a review of the reported cases of poisoning by this agent will not deter us from the future employment of a promising method of dealing with this very dangerous malady to the lying-in woman.

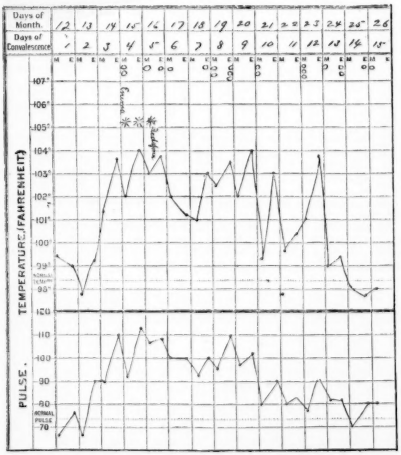
During a recent term of service at the hospital for the first quarter of this year I abolished the use of carbolic acid altogether and substituted a solution of corrosive sublimate 1 to 2000. For obvious reasons this season of the year has usually been more prolific in septicæmic cases, many of which have been fatal. This year, however, the hospital has been comparatively free from the disease, and I am persuaded that the immunity has been due to the lavish employment of the sublimate solution which was required to be used for the toilet of the physicians, nurses, and patients upon all and every occasion, and for douches. In spite, however, of the utmost care, some few cases gave evidences of septicæmia which the sublimate solution did not arrest, and in these I resorted to the use of iodoform by insufflation, with what appears to me to have been very happy results. In a few others the iodoform was employed at once with the apparent effect of arresting the septic process in its incipiency. Possibly in these latter cases the sublimate solution or, may be, a carbolic acid injection might have produced equally good effects. The brief records of some of these cases are presented herewith, together with charts of the temperature and pulse in each. All appeared to me to be undoubted cases of septicæmia, and it is an interesting and instructive fact to be observed from a study of them that the septic poisoning evidently was arrested either at once or in a very brief time. The charts of Driscoll and Crowley apparently seem to contradict this view, but the clinical records show that with the former the second rise of the temperature and pulse was due to the development of a very serious, indeed, usually fatal, skin affection, which Professor White kindly inspected and diagnosticated as impetigo herpetiformis or herpes impetiginiformis, while in Crowley's case the subsequent elevation was due to the development of a cellulitis or peritonitis, or both, for which she still remains in the hospital.

In none of these cases were any symptoms of iodoform poisoning presented, unless the skin affection be classed under this head, and I understood Dr. White to state that this could not be due to anything of the kind. While I do not claim that these cases prove the point which is the basis of the paper, yet it seems to me that we may receive a suggestion from the recital which perhaps will aid us in dealing with this protean malady incident to the parturient period.

Maggie Driscoll. Labor normal. Lochia became offensive on the fourth day: uterine and ovarian tenderness quite marked, severe headache, loss of appetite, considerable nausea, and great prostration. Washings from intra-uterines were muddy. Treatment: Intra-uterines of corrosive sublimate 1 to 2000 and iodoform into uterus, peptonized milk, koumyss and beef tea, brandy, enemata of milk, brandy, and laudanum: Recovery. Skin affection, — impetigo herpetiformis.

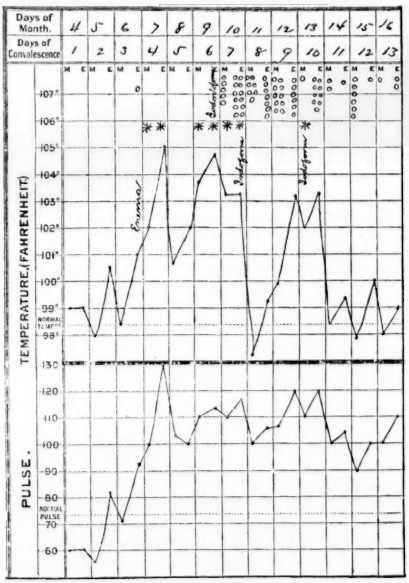


Katie Crowley. Labor normal. On second day developed abdominal tenderness, which increased in



severity, also tenderness over uterus. Rigidity of abdominal muscles, much headache; lochia remained normal. Nausea, tympanites, considerable perspiration. Treatment: Intra-uterines of corrosive sublimate 1 to 2000, iodoform into uterus; stimulation, liquid diet ad libitum; morphia (one quarter grain) suppositories. Cellulitis or peritonitis on right side.

Elizabeth Page. Labor normal. On fourth day developed uterine tenderness, which continued during the following ten days. Lochia were normal and remained so throughout sickness. Diarrhœa began on seventh day and continued for a week in spite of treatment. On eighth day she vomited once, but not after that. Uterus was large and boggy. Washings from intra-uterines contained a few shreds. These, with great prostration, were the principal symptoms. Treatment: Intra-uterines of corrosive sublimate 1 to 2000, and iodoform blown into uterus; peptonized milk, beef tea or brandy every hour; same per enema. Diarrhœa mixture of tr. opii and astringents. Chloral and morphia at night. Poultices and turpentine stupes to abdomen. Recovered.



Nina Clare. Labor normal. On the second day developed tenderness in left ovarian region and headache: lochia became scanty and offensive. On seventh day had a chill: appetite poor: considerable thirst. On the ninth day diarrhœa began, but was soon controlled. Considerable prostration. Vomited on eighth and ninth days. Washings from intra-uterines contained few shreds. Treatment: Intra-uterines of corrosive sublimate, 1 to 2000, and iodoform blown into uterus. Stimulation. Liquid diet ad libitum. Opium and astringent mixture for diarrhœa. Recovery.

		Temp.	Pulse.	
1	M.	99° F.	100	
	E.	100.6	100	
2	M.	102	110	
	E.	102.2	115	
3	M.	100.8	114	
	E.	103.2	112	
4	M.	100.2	100	Two dejections.
	E.	101.8	92	
5	M.	103.1	115	Intra-uterine sublimate injection.
	E.	102.1	100	
6	M.	100.7	104	Two dejections.
	E.	101.7	112	
7	M.	104.8	146	Chill: sublimate intra-uterine and iodoform.
	E.	104.6	120	
8	M.	101.7	108	
	E.	104.6	112	
9	M.	102.5	114	Ten diarrhœal dejections.
	E.	101.8	120	Nine diarrhœal dejections.
10	M.	99	100	
	E.	99	104	Four diarrhœal dejections.
11	M.	99.7	90	One diarrhœal dejection.
	E.	99	90	One diarrhœal dejection.
12	M.	99	82	

Mary Smith. Labor normal. Lochia remained normal. Some uterine tenderness discovered on fourth day, but not marked; headache; impaired appetite. Treatment: Intra-uterines of corrosive sublimate, 1 to 2000, and iodoform. Liquid diet ad libitum. Recovery.

		Temp.	Pulse.	
1	E	99.4° F.	80	
2	M.	98.1	58	
	E.	98.4	58	
3	M.	98.2	64	
	E.	100.1	64	
4	M.	99.6	100	
	E.	103	118	Sublimate intra-uterine and iodoform.
5	M.	99.6	115	Two dejections by enema.
	E.	101.7	106	
6	M.	100.7	102	
	E.	102	118	
7	M.	99.3	96	
	E.	100.2	102	
8	M.	98.4	80	
	E.	99.7	94	Two dejections.
9	M.	98.4	86	One dejection.
	E.	99.4	98	
10	M.	98.4	80	

Martha Korngiebel. Labor normal. Lochia stopped on the second day; tenderness in both ovarian regions, especially in left; considerable headache. On fourth day a piece of membrane, size of a silver dollar, came away with the usual evening douche: its odor was quite offensive. Treatment: Frequent feeding on liquid diet; stimulation; intra-uterines (corrosive sublimate solution, 1 to 2000): temperature 115° F.: iodoform blown into uterus. Recovery.

		Temp.	Pulse.	
1	M.	98.6° F.	100	
	E.	99.5	104	
2	M.	99.1	88	
	E.	101.7	106	Enema: one dejection.
3	M.	103	130	Sublimate intra-uterine injection.
	E.	104.3	134	Sublimate intra-uterine and iodoform.
4	M.	101.4	132	Sublimate intra-uterine.
	E.	102.3	122	Sublimate intra-uterine and iodoform.
5	M.	99.1	84	
	E.	99.2	86	
6	M.	99.1	94	
	E.	100.8	100	
7	M.	103	120	Sublimate intra-uterine and iodoform.
	E.	102	110	
8	M.	101.2	110	
	E.	102.7	120	
9	M.	100.6	98	One dejection.
	E.	100.7	102	Two dejections.
10	M.	100.7	110	
	E.	100.2	116	Four dejections.
11	M.	98	90	
	E.	99.2	96	
12	M.	98.4	90	

Beatrice Mayberry. Labor normal. Had a chill on morning of third day, followed by tenderness in both ovarian regions. Lochia normal and remained so. A second chill on fourth day. Between third and sixth days had chilly sensations quite frequently. Diarrhœa began on fourth day and lasted two days. Dejections very offensive. Considerable headache, nausea, and vomiting. Full bladder occasioned much distress. Had to be catheterized. Induration in right ovarian region, where tenderness was extreme. Washings from intra-uterines muddy. Treatment: Intra-uterines of corrosive sublimate, 1 to 2000, and iodoform, quin. sulph. gr. iii. t. i. d., liquid diet ad libitum, stimulation. Recovery.

		Temp.	Pulse.	
1	E.	98.7° F.	55	
2	M.	98.1	52	
	E.	98 4	52	
3	M.	100.2	85	Chill at 3 A. M. Temp. 102.2° F.; P. 88.
	E.	103.5	105	Intra-uterine sublimate injection.
4	M.	103.2	110	Sublimate intra-uterine and iodoform.
	11 A.M.	107.4	140	Chill.
	E.	101	104	Six offensive diarrhœal dejections.
5	M.	101.3	98	Six offensive diarrhœal dejections.
	E.	103.4	104	Seven offensive diarrhœal dejections.
6	M.	99.7	88	
	E.	101.2	80	
7	M.	100	82	
	E.	102	88	
8	M.	100.8	100	
	E.	101.8	88	
9	M.	100.6	86	
	E.	101.5	87	
10	M.	99	78	
	E.	101.6	82	
11	M.	98.4	75	

Hospital Practice and Clinical Memoranda.

TWO CASES OF HÆMORRHAGE INTO THE PONS VAROLII.

BY R. B. BONTECOU, M. D., TROY, N. Y.

In a former number of the *Boston Medical and Surgical Journal* is an article by Dr. Hurd on Apoplexy of the Cerebellum. It brought to my mind two cases, occurring in my practice, of apoplexy of the pons Varolii in brothers of about the same age. From the rather uncommon locality of the lesion it may be well to place them on record for the benefit of statistics.

The first case, E. R., was a man aged forty-seven years, six feet high, weight about two hundred pounds, married, and keeper of a saloon and restaurant, and of previous good health and history, except occasional slight attacks of gout. Without any known premonitory symptoms he was suddenly seized, on March 3, 1853, with coma and complete abolition of sensation and motion; respiration was difficult and irregular, and deglutition impossible, and he expired in about an hour and a half after the attack.

Autopsy, twenty-four hours after, revealed nothing pathological in the cerebrum, cerebellum, medulla, or membranes, but upon section of the pons a clot was discovered, about the size of a cherry, pressing on the floor of the fourth ventricle.

Second case, W. R., brother of the first, aged fifty-six years, of medium stature and development, married, and by occupation a saloon-keeper, personal and family history good, was seized suddenly, without any known premonitory symptoms, March 25, 1870, with coma and complete loss of sensation and motion, and expired in an hour and a half from the seizure.

Autopsy, twelve hours after, revealed a clot in the centre of the pons, the size of two cherries, tearing and disorganizing its structure to a considerable extent. No other pathological changes were discovered within the cranium.

In a long practice, with rather extensive opportunities for post-mortem observations, I have found only these two cases of apoplexy of the pons, and, occurring as they did in brothers, think it may be of interest to some. These persons were not considered as intemperate, although the nature of their occupation undoubtedly led them to the habitual use of stimulants.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

APRIL 12, 1884. The President, DR. C. ELLERY STEDMAN, in the chair.

DR. INGALLS read a paper on Some Cases in Pædiatrics, which was briefly discussed by Drs. Abbot, Rotch, and C. E. Stedman.

EXTRA-UTERINE PREGNANCY.

DR. CHADWICK read a paper, written by Dr. Fanny Berlin, on a Case of Supposed Extra-Uterine Pregnancy.[1]

DR. W. F. WHITNEY, present by invitation, said that he had examined the specimen given to him by Dr. Chadwick. In connection with this he had looked at the decidua in the cases of extra-uterine pregnancies, which were preserved in the Warren Anatomical Museum, thirteen in number. The cells in this case were as large as those found in the latter cases, and of the same irregular shape. They presented none of the distinctions to which attention has been called by Wyder[2] as existing between the menstrual and puerperal decidua. The orifices of the glands were well marked. As far as this specimen went it would certainly point to the case as one of extra-uterine pregnancy.

DR. F. G. MORRILL, present by invitation, was not sure of the diagnosis in this case between extra-uterine pregnancy and pelvic hæmatocele: he had seen a case of hæmatocele which greatly resembled the one reported, in which the uterus lay in the left inguinal region, displaced there by an effusion: the uterine cavity measured four inches. There were pain, fainting attacks, and hæmorrhage. The mass was aspirated, found to contain blood, and was laid open and the cavity washed out: the patient made a good recovery. Dr. Morrill believed this case might have passed for one of extra-uterine pregnancy, had it not been proved to be otherwise.

DR. BOARDMAN asked for the limit of time when galvanism can be safely applied: he believed it was unsafe in the later months.

DR. JAMES R. CHADWICK, when called in consultation to this case by Dr. West on April 28, 1883, ventured to make the diagnosis of extra-uterine fœtation

[1] See page 243 of this number of the JOURNAL.
[2] Archiv für Gynäkologie, Band xiii., S. i.

on the following grounds: The patient, who had menstruated irregularly every two to three weeks prior to January, had not menstruated from early in January until February 26th, an interval of six to seven weeks, when she had passed decidual membranes; on March 6th she had had an attack of colic and fever simulating localized peritonitis; after a remission of symptoms she had had relapses on March 21st and April 5th; she thought herself pregnant. He found obliquely to the left and behind the uterus a round, elastic, fluctuating body, corresponding in size to the fourth month of pregnancy, crowding the uterus forward and upwards against the pubes and abdominal wall: the tumor was not surrounded by the dense, inelastic induration indicative of a peritoneal effusion. The uterus, both body and cervix, was plainly definable from the tumor, differing in this respect from the condition found with pelvic hæmatocele. He now recognized that he attached too much diagnostic importance to the discharge of decidua, for he had since learned that the patient had passed casts of the uterus several times in the past year; he saw no reason, however, to change his opinion, although he was ready to admit that hæmatocele is not an impossible explanation of the symptoms and condition: this last disease, however, will not explain the great enlargement of the uterus recognized from the beginning and confirmed by a measurement of the cavity in June, when the tumor was subsiding, which still gave a length of four inches. The thin-walled, sausage-shaped cyst felt to the left of the uterus by Dr. Berlin and himself in February, 1884, certainly coincides with the theory of a tubal pregnancy rather than that of hæmatocele.

ON THE USE OF IODOFORM INSUFFLATION WITHIN THE UTERUS IN PUERPERAL SEPTICÆMIA.

DR. BOARDMAN read the paper.[1]

DR. ABBOT asked how much iodoform was used, and how it was applied.

DR. BOARDMAN replied that the powder was applied with an insufflator, which consisted of a small bottle with a metal cap which screwed on, and with suitable rubber tubes for attaching the uterine tube and the insufflating bulb. About two drachms of iodoform were used.

DR. CHADWICK asked if iodoform poisoned.

DR. BOARDMAN replied that there were many reported cases of poisoning; but he believed that a careful analysis of them would show that the symptoms ascribed to iodoform might with equal propriety have been ascribed to the disease for which the iodoform was used. Still there are undoubted cases of poisoning. In a recent French review iodoform was believed to poison by its action on the heart, the poisoning being most likely to occur when the drug was used in large, undrained cavities.

DR. CHADWICK inquired if the results in these cases had been compared with those in which the intra-uterine douche alone had been used.

DR. BOARDMAN said he had observed that when the intra-uterine douche alone was used there were no immediate results; but when the douche was followed with insufflation of iodoform, there was a rapid amelioration of symptoms.

DR. HOMANS said that when iodoform first came into use, it was employed in large amounts and he thought poisoning had resulted therefrom: he did not advise against its use, but thought it should be used with care.

DR. FIFIELD believed that iodoform was a very active poison, affecting the brain and nervous system. In the case of a young lady with syphilitic ulcerations on the wrists and scalp he had used iodoform on the wrists and found it too irritating, hence on the scalp he used it with care, applying not more than one scruple in all: the next day the features, neck, and scalp were much swollen. He believed the use of iodoform was abandoned in New York.

DR. RICHARDSON did not agree with Dr. Boardman in the use of iodoform, and thought the results claimed for that drug were to be ascribed to the preceding intra-uterine injection: he had used iodoform in one case and the patient was poisoned, but recovered when the drug was given up; he then used the insufflation again in the same case and the same symptoms of poisoning recurred.

DR. BOARDMAN wished to differ from Dr. Richardson and did not believe that the symptoms in his case were attributable to the iodoform, but to the chloral which she was taking.

[1] See page 243 of this number of the JOURNAL.

CHICAGO MEDICAL SOCIETY.

D. A. K. STEELE, M. D., PRESIDENT.

STATED meeting of August 18, 1884. The meeting opened with a paper by DR. P. C. JENSEN on

CUTANEOUS THERAPEUTICS,

which created some little discussion.

DR. C. W. EARLE followed with a paper on

INFANT FEEDING AND SUMMER DISEASES OF CHILDREN,

which, being an adjunct to a discussion on cholera of two weeks before, was found interesting. The subject of proprietary or prepared foods, a score or more of which were commented upon as to their merits or demerits for these little people, was thoroughly treated by the writer. We are obliged to abridge the abstract of the paper, as originally prepared by the secretary, but instead give a very brief summary of it, along with the discussion, as found below: —

The conclusions, as summed up, were as follows: —

(1.) The most frequent infantile disease in the city during the summer months is entero-colitis.

(2.) Excluding causes of infant mortality largely beyond our control, improper feeding is one of the chief causes of the great number of deaths among this class.

(3.) Mothers should nurse their children. In lieu of this a wet-nurse should be procured. If this is impossible a mixed diet is preferable, and, lastly, an artificial diet must be resorted to.

(4.) Artificial foods containing considerable caseine are found to be a cause of indigestion and summer diseases.

(5.) In many cases cow's milk diluted with water does not seem to agree with children. Barley water, or rice water, as the diluent, seems to make a more physiological food.

(6.) Condensed milk seems to agree with a considerable number of children, but in many cases a suffi-

cient quantity is not used to nourish a child. Used in proper quantities, and diluted with rice or barley water, it is without doubt one of the best artificial foods.

(7.) Cream, mutton broth, and white of egg are valuable adjuncts to the dietary of infants.

(8.) Whatever the artificial food a child is having, the physician should examine frequently for evidences that it is a proper food as regards quality and quantity. The normal elevation of the fontanelles and increasing weight are among the conditions denoting a satisfactory and favorable nutrition.

DR. J. S. KNOX stated that he judged from the paper that its author had been a bottle-fed baby, as he himself had been, and inquired if this were true? He was answered affirmatively. The speaker, however, differed from the writer somewhat as to the causes of entero-colitis and the other allied summer bowel affections of children. Improper diet is in part a cause, yet the principal causes that produce it arise or are peculiar to the hot weather of summer, heat producing nervous exhaustion in children; they become restless. The anterior fontanelle is a little depressed, and the trouble at first is the child's nervous system is depressed or exhausted. Urgent thirst comes on. Then, too, the child is too heavily clothed; the bottle-fed baby is especially wrapped in flannels, and as a result he becomes more thirsty. The milk and farinaceous foods that are used become sour, and frequently produce fermentation, indigestion, and diarrhœa. A baby from three months old to a child ten years of age may require diffusible stimulants in the morning to stimulate the nerve centres and otherwise during hot weather, such as a little spirits of camphor, aromatic spirit, or valerianate of ammonia, or even whisky toddy. He has occasionally in the summer given his children a toddy before breakfast, and none of them have ever had entero-colitis. For intense thirst give them small amounts of good, pure cold water; feed [illegible] at regular intervals (not too frequently). Farinaceous foods must be prepared fresh only at the time of administering them. Do not give oat meal. If Ridge's food is given it should be prepared with cream. Then try to do without milk. We can give almost any farinaceous gruel or food, and it may be well to substitute a little lime water. Test the excretions, if necessary, and the foods with litmus paper to see if there is an acid reaction. Excessive heat will be likely to produce a heat diarrhœa. When a child is hot give him a cold-water bath; repeat this three or four times a day, on the same principle as for the heat of a typhoid-fever patient. He has frequently seen a baby drop asleep while it was in a cool bath. Entero-colitis in children most likely arises from the heat, such as we have in Chicago during August, which produces exhaustion, fermentation, irritation, interference with nutrition, and catarrhal diarrhœa supervenes.

DR. F. E. WAXHAM differed from both the writer and the gentleman who preceded him as to the causes. The greatest cause is a combination of improper feeding, heat, and impure air. If it were due to improper feeding they would as readily die in the country. If it were due to excessive heat they would die as quickly in the better districts of the city or in the country as in the poor localities. Impure air is mostly prevalent in the poorer localities in houses that are small, containing badly-ventilated rooms that are stifling with heat, where, perhaps, there are present several in a bed, when as likely as not an old pair of boots and filth are seen under the bed, etc. Sudden fluctuation in temperature, combined with other causes, will produce the disease. This is greater in Chicago, New York, Boston, and Omaha, than in New Orleans and San Francisco; the temperature is more uniform in the two latter cities.

In reference to cerebral symptoms (as alluded to in the paper) as a complication, What is the cause, significance, and treatment of such? If a convulsion comes on in a case of entero-colitis, is it due to cerebral disturbance? No, it is a result of pain, and opium and the bromides should be given. Danger of hydrocephalus or meningitis may impend. A blood stasis may form under the finger nails. A serous exudation may have formed in the ventricles of the brain from want of tonicity in the blood-vessels. If so, then we must give quinine and stimulants. It may be a gradual softening of the brain that is coming on. The speaker then cited a typical case of "cholera infantum" that had passed through, as he supposed, these stages of disturbance in the cerebrum corresponding to the appearance described under the finger nails. For two weeks the child's life was despaired of, but it ultimately recovered.

DR. D. M. TUCKER thought children do not require whisky toddy in the morning, before they had been taken ill, as one gentleman had stated. In obstetrics, too, a nurse generally wants to give "toddy" to a baby almost the very first thing she does; this is also equally wrong. We are not usually called to see a baby until it has become pretty sick, very sick. The very first thing we should do is to regulate the diet if necessary, and if the baby has been "filled" with toddy we should order it discontinued.

DR. E. F. GASTON was of the opinion that babies often died of inanition, that the mixed diet and dilution of milk was in many instances overdone, and the little ones often did not get sufficient to sustain them, particularly at a time when their powers of endurance are apt to ebb away: and this is especially true of bottle-fed infants that are a few weeks old.

DR. JOHN BARTLETT thought the field had been well covered by the paper and in the discussion. He would not, therefore, attempt to say much. He thought the sweetness of condensed milk is against using it; that this feature is destructive to its digestion. The causes are several, whether heat, sudden atmospheric changes, irregularity of diet, constitution of a child, fermented foods, etc. All of these combined no one will deny act as causes. He had had good success in these cases from using peptonized food as prepared by J. L. Smith, with the Pancreatic Extract of Fairchild, yet he did not wish to recommend them as being superior to many of the other food preparations.

DR. J. J. M. ANGEAR. According to physiologists children cannot digest starch until there is a saliva, and yet we give starch in the treatment of these cases. His observation as to the causes of these summer troubles gives "over feeding;" and, again, some cow's milk does not agree with children. We wonder why this is so. This was very clearly explained by a number of illustrations, one or two of which may be cited. A baby may be fed on "swill milk," or its equivalent, as that which is obtained from cows fed on slops from distilleries. Where 150 or 200 cows are confined to an acre of ground the mud would become one or two feet deep (he has seen such a place in this city), where the

stench arising from these cow-pens *could be* "*felt* with a stick." The milk such animals gave would present the different colors of a rainbow if allowed to stand for a short time only before using, and when given to a baby it sickened it. In London cans of milk designed for children were sealed by an official placing his official stamp on the cans as being pure milk, or a superior grade of the article. The idea is a valuable one, and should be carried out here; by so doing our little ones would get better milk. Heat also produces the disease by depressing the nerve centres. The heat not only affects the cerebral centres, but the cells of every portion of the body. Heat acts first by stimulating these cells; then they die and contaminate the blood, and this material enters the bowels, and right here the cold-water bath comes in, which we should give the first thing to save the vitality of these cells.

DR. H. J. REYNOLDS regarded the etiology of the disease as heat, imperfect feeding, filth, impure atmosphere, placing a child in a heated room, etc.; besides all these, a peculiar atmospheric condition may produce it where none of the other causes are present. The speaker alluded to electricity as a cause having much to do with producing the disease.

DR. C. E. WEBSTER thought it interesting to note that recent experiments have demonstrated that the saliva of infants is capable of converting starch into sugar as early as the sixth day after birth. The practical value of this discovery is limited, however, by the fact that the saliva is a very small factor in the digestion of starch; the intestinal and pancreatic juices must aid; its ferment is only capable of acting in an alcoholic solution; it is inoperative or wholly destroyed in the stomach, and the digestion of the starch takes place after the passage of the food into the small intestine. These being the facts, it is evident that the matter of the infantile digestion of starch requires further investigation.

DR. G. C. PAOLI thought opium is a very frequent cause of death of little children having enterocolitis or other bowel difficulties; that they should have better diet and fresh air, and, lastly, that more hospitals for them should be erected. With these means we could save them and their lives from the slums and alleys, where the poor live often on old bread, and where garbage and decaying vegetables are to be found.

DR. F. H. MARTIN spoke of the "Sanitarium" recently established at the foot of Twenty-fifth Street on the Lake shore, under the supervision of some Jewish ladies. A few healthy cows are kept there, with clean surroundings, and fed on grass, clean bran, etc. Here twenty five to fifty children are cared for daily and supplied with an abundance of fresh sweet milk and crackers.

This discussion was followed by a paper read by DR. JOHN BARTLETT on

A THEORY OF CHOLERA, OR TWO THEORIES AS TO THE MODE OF ADVANCE OF CHOLERA,

which was very long. The following abstract of it will be read with more satisfaction and greater interest if it be known that the illustrations made use of — the "army worm" and "marsh fungus" — have been carefully studied in the field by the author. Some twenty-four years ago he wrote a long article (the first one ever written on the Army Worm), as may be seen by a perusal of State Entomologist Dr. Smith's New York Report for the year 1861–1862. The author has also had ample experience with the cholera, having passed through two or three epidemics.

While it must be admitted that the knowledge of cholera is very imperfect, it may yet be of interest and profit to frame some theory of the disease which shall conform to every known fact regarding it, and which may offer explanations of the phenomena of the disorder, as satisfactorily as the limited knowledge of such subjects will in the present state of science admit of. Such a theory is of value, if simply as a frame-work which may hold together in an apparently perfect order and relation a large number of fragmentary facts, which might be lost to the mind if allowed to lie detached and disconnected. The writer accordingly presumed to set forth what he conceived to be such a theory of the disease, taking occasion to follow the method of induction, and erecting the theory upon a trestle-work of facts, assumed to be analagous, drawn from other departments of observation. Events are occurring about us similar in many particulars to the rise and spread of epidemic diseases. One of the most striking of these, perhaps, is the prevalence of that plague to vegetation, the army worm. The laws of this pest have something in common with those of cholera. Thus the cause of the army worm is always present in, and indigenous to, certain localities favorable to its development, life, and methods of propagation. Appearing yearly in these habitats, it spreads occasionally, and with some show of periodicity, over extents of territory far beyond its normal limits, and these periodic irruptions frequently cover vast areas of territory, carrying devastation over continents. In this march outward from the nidus of development, pushing onward by some regular yet occasionally interrupted stages, the army worm resembles an epidemic of disease in its mode of approach to a place, its gradual attainment of an acme of destructiveness, and final abatement. Thus the army worm millers, indigenous to certain marshy lands of the South, in the year 1861 sallied from their haunts in illimitable swarms and deposited their eggs in suitable places, and at a suitable period of the growth of early vegetation, in every county from the Gulf to the lakes. These eggs lay dormant until stimulated by the warm weather. Then, apparently, starting from its habitat at the southward, began the northward march of the army worm which overran the country. It was because of the fact of the apparent onward march of the countless hosts of these invaders that they received the suggestive name of "Army Worm." And yet their march was only apparent. They moved only from field to field, as other insects, for the purpose of forage. They advanced northward only as the peach blossom advances northward; their march kept pace with the increment of heat, of the advancing season necessary for the development of the long-deposited egg. The line of their march was an isothermal one. Thus, the worms keeping pace with vegetation, appearing when the winter wheat was "in the milk," advanced toward the north slowly, so that they appeared in Maine two months after they were first seen in Missouri. They had not moved on to other conquests, as people supposed, but the worm, disappearing under the sod, had become a chrysalis, which in a few weeks emitted the miller, which deposited its eggs, and thus completed the cycle of the insect's life. In the above reference to the army worm invasion, it was assumed by some that the whole

field devastated had been run with the germ of the plague the previous season.

Observation of the insect indicated, however, that it passed through its phases within a few weeks, and it is probable that the visitation was not thus sown broadcast and at one time, but that the invasion was by the gradual encroachment of successive "crops" of the worm, so that the insects marching northward into Michigan were not "contemporaries," but the descendants, by several removes, of those which, weeks before, invaded Southern Illinois. Thus a brood of worms, disappearing in the northern counties of Mississippi as chrysalides, were represented, in a few weeks, in Middle Tennessee by millers attracted northward in search of early vegetation suitable as nidi for their eggs. The crop of moths from these eggs would in turn deposit their ova in Kentucky, and so the advance northward would be effected not by the worms, but by that element of the insect floating in the air, and endowed with power of swift flight, and with selective instinct. In regard to the continuance of the recurrence of these insects, it is essential that the several elements find suitable resting surfaces and conditions (of temperature, moisture, etc.), and in the lack of these the element may perish or may remain inactive for an indefinite period, till conditions occur requisite to arouse it to development. Thus in the latitude of St. Louis, with favorable conditions, two or three broods of the worm were hatched in one season, while in Maine a second brood did not appear. Injury to crops wrought by secondary broods in one locality was comparatively limited. The new worms were preyed upon largely by enemies now invading the field, and material suitable for their sustenance was scarce, in good measure exhausted by the depredations of their predecessors. Finally, the miller of the army worm "winters over," and deposits its egg at the appearance of vegetation in the spring. By accident or design the insect, in any of its phases, could be transported to any distance, and as a miller it might be readily carried by the wind. Dr. Koch, the noted microscopical investigator of the causes of disease, believes that he has discovered the actual entity producing the cholera in the "comma bacillus." As yet no more is known of this bacillus than its bare existence. It has a natural history, but the laws of its development and changing growth are yet to be learned. In the absence of such knowledge we may assume that it has certain phases of development, as the army worm has, and that in each one of these it presents different potentialities. In relation to certain fungoid cells, the fact of such phases of existence are ascertained, and from analogy it may be inferred that the "comma bacillus," after a period of active growth, develops into an apparently lifeless-formed material, a crystalline substance, bearing, for illustration, as the writer stated, the same relation to the cell as coral does to the insect which forms it. This crystalline substance is not dead, but living matter, and after a period of passivity, under favoring circumstances, it puts forth buds, which presently burst and emit into surrounding media a protoplasmic fluid, in which, in time, are developed the cells, thus completing the cyclic changes in the life of the plant. The peculiarities of the several elements may be thus stated: The crystalline substance, we may suppose, is in the form of dust, granules, or threads, not an impalpable something, but a material which may be seen by the naked eye, and handled by the fingers. Under the microscope it may be seen to form from an aggregation and concretion of the cells. From it buds, sprouting, emit what may be compared to the contents of an egg, a protoplasm, an apparently homogeneous, aqueous fluid, in which presently begin to appear dim outlines of cells that gradually grow in size and increase indefinitely, not from cell division, but from development of a cell from every atom of the protoplasm. The power of this fluid is only exhausted when its ultimate atom has become a cell. The characters of the protoplasm prior to the development of cells would probably elude all efforts at recognition, so that fluids and tissues of a body containing it might be examined with the highest powers of the microscope without the detection of any organic particles. All parts of the cholera fungus, then, are portable, all are tangible, visible entities, except the infinitely minute atoms of cells in the protoplasm.

The entrance of this fluid into the economy impregnates the system with the ultimate germ of the cells, which under favoring circumstances develops at the expense of the blood, and produces the symptoms known as cholera. The seeds of the disease are brought in the course of travel, to a locality, as crystalline substance, — cholera dust, — or of protoplasm diffused in moisture of the air or water, or in fluids of the human body in the form of cells. Under favoring conditions these elements proceed to perform each its part in nature, so that sooner or later after finding a resting place in a community, they develop protoplasmic fluid, which disseminated by the law of diffusion of fluids in the air and water, or resting as dew upon articles of food, finds its way into the body. The atoms of the poison, infinite in number, and pervading large areas of space, are received into the system of all, as is the pernicious miasm of the marshes. The blood, acting as other fluids have been observed to when impregnated with fungi, resists the changes which it is the destiny of the foreign agents to effect, until the number of the invaders, or some changes in the vitality or chemistry of the impregnated fluid makes longer resistance impossible, and an explosion of the disease like a paroxysm of pernicious fever results. The ejecta from the first cases, filled as they are with cholera cells, find their way generally to a favoring soil, and develop within a few hours succeeding phases of the fungus. Thus crop after crop of cholera atoms are begotten in a prodigiously increasing progression, to extend the area of infection and increase the malignancy of the disease. It may happen that the germs of cholera introduced in a locality find circumstances unfavorable for their development at the time; and although seeds of the disease may be pretty generally sown, they lie dormant for a season. There are certain known facts regarding the cholera, which at least lend plausibility to the theory that the germ may be implanted in a district long in advance of the actual appearance of the disease. Such, certainly, is the case when cholera "winters over," as it is said, lies inactive, it may be, through the fall, winter, and spring, to arise into activity the following summer. It has long been noticed that an epidemic of cholera is often preceded for weeks by the influenza, and a marked and general tendency to diarrhœa. The reasonable assumption, that both the forerunning ailments and succeeding disease were effects of a common cause, would imply the presence of the germ of cholera in a locality long before the actual outbreak of the epidemic.

The march of the pestilence, though generally in the track of travel, is sometimes singularly abnormal as to this law. The cholera sometimes springs up in places far out of the line of apparent exposure. These variations and exceptions to the general law of portability of the disease, suggest a possibility of the truth of the theory, that it may be primarily sown as a temporarily inactive dust as well as implanted as a speedily developing protoplasm. It may be, that in attempting to trace the origin of the disease, by noting in any locality the first case, we err in this, that we compare the course of the epidemic with the line of travel in the presence of the attack, when possibly it is the course of the traveler from the infected district of last year to which attention should be given. The irregularity as to the time and place of appearance may be further referred to the varying soil and temperature of the respective localities considered as developing agents of the deposited germ.

It will be noted that there have been here set forth two theories as to the mode of advance of cholera. The one, that it advances in successive crops from a first, or isolated case; the other, that the seed is sown broadcast over the countries elected for visitation, and that these are developed when and as favorable conditions arise. The number of cycles which the cholera germ may undergo in a season may vary with the locality, temperature, etc., conditions which determine the severity of the epidemic and the length of its stay in a place. Thus, at St. Louis, the number of its cycles might be threefold greater than at Bangor. And a variation in the time of the cycle, also, might influence the rate of advance of the disease.

Changes in the blood, effected by protoplasmic atoms in their act of development into cells, alone produce the cholera. The presence of cells which have already completed their growth, or the material formed from them, cholera dust, does not directly induce disease. Thus, rice-water discharge abounding with comma bacillus may be drunk without injury. The subsequent deposit of these cells in the ejecta of the experimenter may, however, lead to an outbreak of the disease, of which he may prove the first victim. One of the most singular laws of cholera is this, that with rare exceptions it marches *onward*. It remains active in a place a number of weeks and subsides, and the places next attacked are beyond, relatively, the starting point of the district last devastated. In reference to the army worm this is also a fact; and in regard to the march of the insect we can plainly discern the laws. And that, whether it be held that the eggs have been all deposited by the same army of moths or by successive broods of them. In the one case we may suppose the millers, finding the fields of favorable deposit preëmpted, pass onward to unoccupied territory. In the other, because of the devastation made by the preceding generation, the millers of the present must instinctively move onward in search of proper resting places for their eggs.

Means by which man might stamp out or keep out the myriads of army worms which sometimes in a few hours fill to the brim the cordon of ditches plowed about the grain fields, and change in an equally short time flourishing acres of wheat into a "marble ground," can hardly be devised. Plans by which he might unearth and devitalize chrysalides planted under every sod from Georgia to Maine, are difficult to imagine. Methods by which he might successfully contend against the innumerable moths filling the air, might discover and destroy the numberless eggs deposited in every meadow on the continent, are inconceivable.

How infinitely more difficult to avoid or to antagonize are minute cells, the every way and everywhere portable dust, and the invisible, intangible, miasmatic atoms of cholera.

And yet the farmers actually did antagonize their protean plague in all of its phases, and with a fair measure of success. They quarantined against the ever-coming and ever-increasing countless millions of worms. They energetically and persistently worked to keep off from the yet uninvaded fields, by means of a cordon, mechanical and chemical, all possible insects; they plowed under and deeply buried, in order to destroy the chrysalides known to have formed; they attempted to entrap and destroy the millers by cordons of lights, and they burned the grass where the eggs were deposited.

The principles of quarantine against the cholera, suggested by the theory of the disease here presented, may be summed up in the following propositions:—

Elements of the disease known to exist may be isolated or destroyed. Places suitable for the development of the elements may be rendered unsuitable. Ingesta possibly contaminated by the cholera poison may be avoided. Badly infected districts may be evacuated.

According to this theory, during an epidemic the poison lurks in every individual. In the blood of an exposed person are two contending forces, the one the resistance of the vital fluids to the changes attempted to be made by the invading atoms, the other the efforts of the latter to appropriate from the blood materials for their own growth.

One of the first evidences of the yielding of the forces contending for integrity of the blood is loss of serum. The one important event in the chemical change in the blood necessary to give the victory to the ferment (invading atoms) is loss of its serum. Speaking figuratively serum is the essential ally of the blood in its resistance to the invaders. Ejection of ever so little of this tends to render the ejection of other portions easier, and to give the final victory to the poison. Now, while no prophylactic measures are known, it is most fortunate for mankind that remedies are at hand which, if applied in season, may, unless the assault of the ferment be overwhelming, arrest the flow of serum and reënforce the blood in its resistance to the infection. Even when the cholera has held full sway, when it has run its course without interference, it is not necessarily fatal, either because the dose of poison has been insufficient to destroy, or because in some life may continue after the virus has done its worst.

The secondary, reactionary conditions following the collapse known as the typhoid state are complicated phenomena. They are expressions of the efforts of the system in its struggles with the resultants of the cholera paroxysm, rather than a proper stage of the disease. They bear a relation to cholera which may be compared to that which surgical fever bears to injuries which cause it.

This theory of the presence of the germ of disease in the system of all involves the recognition of the principle of acclimatization in this disorder. One may become by gradual inurement habituated to the presence of the virus, and perhaps the majority so inured

are able completely to resist it. As in the yellow fever, however, the acclimation may be speedily lost. Persons whose systems have not thus become acclimated to the poison may be, upon sudden exposure, stricken down with violence.

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ACTINOMYCOSIS IN MAN AND IN ANIMALS.

A PAPER of considerable length and interest upon actinomycosis was contributed to the April number of the *Revue de Médecine* by Dr. Firket, of Liège, under the above title, in which especial attention is given to the bibliography of the subject, and it is pointed out that this disease in man is not of such recent observation as has been generally supposed. Less than two years since many pages of *Virchow's Archiv* were occupied by a bitter controversy between Israel and Ponfick as to which of them rightfully belonged priority of observation and description of actinomycosis in man. Firket insists, apparently with some little justice, that such priority really belongs to Lebert, who, as long ago as 1857, published the first account of human actinomycosis. This may be found in his treatise on Pathological Anatomy,[1] and the radiating fungus which gives its character and name to the affection may be seen figured in Lebert's Atlas.[2] These specimens were found in the "thick, almost gelatinous" contents of an abscess of the thoracic walls of a man aged fifty years, a patient of the famous Louis, who sent the specimen to Lebert for examination in 1848, the man having shown symptoms for four or five months of an affection of the lungs which Louis suspected to be of a cancerous nature. Robin, in his Traité du Microscope, in 1871, recalls Lebert's observations, and gives additional figures of similar radiating masses which he had several times found in the pus of "old, deep abscesses."

Israel first called attention to the subject in 1878 in a memoir read before the Berlin Medical Society, and published in September of that year in *Virchow's Archiv* under the title of "Neue Beobachtungen auf dem Gebiete der Mykosen des Menschen." In this was included, by permission, a case observed by Von Langenbeck in 1845 in connection with a prevertebral abscess, but never before reported. Ponfick's first observations were communicated to the Surgical Congress at Berlin in April, 1879, and published later in the same year in the *Berlin. klin. Wochr.* as a paper under the title of "Eine warscheinlich mykotische Form von Wirbelcaries."

Von Langenbeck certainly, and Lebert apparently, recognized the parasitic character of the maladies presented to them; Israel, whilst regarding his cases as "a special form of pyæmia," realized distinctly the fungoid character of the accompanying growths, and their special parasitic relation to the disorder as a cause, but he neither attempted their precise determination nor recognized the identity of the disease with that previously described by Bollinger in cattle as resulting from this same fungus, named by Harz, a botanist to whom Bollinger referred his specimens, *actinomyces bovis*. This identity was appreciated and established by Ponfick the following year in the memoir previously mentioned, and this seems to be the only real basis to any claim which Ponfick can fairly make to the discovery of human actinomycosis.

Bollinger, who was followed by Ponfick, who has generally been regarded as the first to describe the disease in cattle, and who made his first publication, entitled *Eine neue Piltzrankheit beim Rinde*, in Germany, in 1877, was, moreover, preceded by Rivolta and Perroncito in Italy, where the malady is by no means very rare in cattle, in 1868 and 1875. In Italy the disease is popularly known under the names of *lupia* and *mal del rospo*. In Germany the peasants have various names for it, as Ladendruck, Ladengeschwulst, dicker backen, Krebsbacken, etc., etc. It has been observed, though rarely, in swine and in horses as well as in cattle. For a long time all attempts to inoculate rabbits were unsuccessful, but Israel reports his last efforts with this animal as attended by positive results.

In the United States a few scattered cases of *actinomycosis bovis* have been reported from the West, and one of Eastern origin in the JOURNAL,[3] but the disease as affecting cattle is evidently but little known or not recognized, in this country, and has never been observed in man. Firket puts the number of cases of human actinomycosis reported in Europe up to the date of his publication at twenty-eight, but as no reference is made in his bibliography to five cases occurring in the peritonæum and abdominal organs, reported by Lemann, assistant at the Vienna Pathological Institute, mention of which may be found in the JOURNAL,[4] we are inclined to think he under-states the number. Ponfick collected sixteen cases of his own and others, which were, apparently, all he was acquainted with, and these were incorporated in his monograph entitled *Actinomycose des Menschen, eine neue Infectionskrankheit*, etc., etc., a brochure which appeared in 1882, and summed up the contents of his two previous papers.

The fungous nature of the actinomyces has been well established, but a careful study of the conditions favorable or necessary to their growth, of their development, of their affinities still remains to be made. In the same way their presence in various tissues and

[1] T. i., p. 54.
[2] T. i., pl. ii., Fig. 16.
[3] Vol. cx., p. 532.
[4] Vol. cx., p. 259.

organs of the human system has been perfectly well established, and the various symptoms and effects of their presence upon the organism quite fully described, but little is yet known of their mode of transfer from one victim to another, or of their ways of entering the economy which they attack. Were they found only in superficial situations or in such as communicate readily with the external air the explanation would seem simple, but their discovery in deep tissues and organs, and in places where no communication with the outside exists, makes it much less easy to arrive at a satisfactory solution of this question.

The majority of the cases reported have proved fatal, but there is no doubt that where the affected parts are so situated that the whole of the parasite can be thoroughly removed a cure may be effected. Some observers are disposed to dwell upon the analogies between the processes exhibited by actinomycosis and tuberculosis.

ANTISEPTIC THERAPEUTICS.

At the recent meeting of the Medical Congress at Copenhagen the subject of antiseptic medication was discussed by Ewald, Jaccoud, Bouchard, Grancher, Liebermeister, and others. Ewald was inclined to accord a great value to the discovery by Koch of the bacillus tuberculosis; it had certainly been of great diagnostic importance, and was likely to have an influential bearing on therapeutics. Jaccoud did not understand that Koch's discovery had added anything to the therapeutics of phthisis. If we take account of the fact that the transmissibility of the disease had been established by Villemin, and that the profession was in possession of all the hygienic and medical means of precaution before Koch announced the results of his labors, it will be seen that the discovery of the bacillus has been barren of any useful therapeutical fruits.

Guttman thought this a very narrow and *unmedical* view of the subject. Always when we have had clearer notions of the causation of diseases improvement in therapeutics has followed. We are still, unfortunately, in the experimental period, as far as the treatment of phthisis is concerned, and the discovery of the bacillus is too recent an event to warrant us in denying that it is to have an important influence in the therapeutics of tuberculosis.

Subsequently at this session Bouchard gave an interesting address on Antisepsis in Medicine. The only kind of therapeutics, he said, that is really curative is pathogenic therapeutics, for this aims at the cause. To-day we possess, for a considerable number of infectious diseases, a pathogeny which is positive. A new tentative, then, in the direction of pathogenic therapeutics is warranted, this shall be antiseptic therapeutics.

The value of surgical antisepsis is practically undisputed, but the notion of medical antisepsis has not been so readily entertained. We are told that the infectious element being in the intimate recesses of the organism, it is necessary, in order to reach it, to impregnate the entire organism with the antiseptic substance, which must equally modify the human cells and those of the ferment, and which will kill the patient before killing the microbe.

Bouchard thus states the fallacy of this argument: —

(1.) There are substances innocuous to man which are destructive, if not to microbes in general, to certain microbes. Oxygen, indispensable to man, prevents life in the case of a host of ferments; salts of silver in doses which are without effect in animal organisms arrest the development of an aspergillus.

(2.) There are medical diseases such as dysentery, cholera, and diphtheria, where the infectious agent is, at least for a limited time, on the mucous surfaces and can be reached topically without impregnation of the entire economy by the antiseptic substance.

(3.) Medical antiseptic therapeutics does not propose to kill the microbe (as has been falsely represented), but only to stay its pullulation. In fact, when in infectious diseases the victory is decided in favor of the ferments it is because the latter are incessantly renewed, because new combatants, always more numerous, succeed those that perish in the struggle for existence against the animal cells. In the higher organisms, animal or vegetable, a simple change of environment, of climate, suffices to make them lose their fecundity without compromising their existence. The example of sheep belonging to the department of Beance, which become refractory to charbon when they have been transported for a certain time to Algiers, gives us reason to hope that even slight modifications in the human infected organism may prevent the indefinite multiplication of certain microbes which have invaded it.

Certain clinical facts go to confirm these views. All antithermal medicines are also antiseptic. Quinine, which in typhoid fever may reduce the temperature three degrees and more, does not lower the temperature in a healthy individual. It is even without action in certain fevers, such as attend pneumonia and erysipelas. Quinine would appear to act, then, not so much by its physiological effect on the organism as by being noxious to certain pathogenic microbes. Phenic acid, which is assuredly antithermal, is at the same time a poison to the infectious agent of typhoid fever.

According to Bouchard's statistics, out of one hundred patients cured by the phenic-acid treatment there were ten in whom the disease lasted less than a fortnight. In one case he saw accidental poisoning by the carbolic acid cut short the disease; the temperature fell from 40° C. to 35.7° C., and did not thereafter gain a higher point than 37° C.

All the medicaments whose good effects have been vaunted in typhoid fever are antiseptics.

Clinicians show a certain obstinacy in coming back to the employment of mercury in typhoid. Serres has given the black sulphuret, Becquerel uses the blue ointment by frictions, while Salet administers calomel even to salivation.

The method of Salet has given, as reported, in Bouchard's practice, a mortality of six per cent., and a medium duration of twenty days. All the patients

that have been salivated have recovered, and in these cases the duration of the disease was briefest of all.

The antiseptic treatment of typhoid fever by calomel is realized by giving this mercurial in doses of from one to two centigrammes every hour till the mouth becomes sore. Against the advisability of this method it should be said that convalescence is thereby rendered longer and more painful. Bouchard would not be understood as actually proposing an antiseptic treatment of typhoid fever, at the same time believing that medical antisepsis is theoretically admissible, and in certain cases practically realizable.

It seems highly probable that persevering researches undertaken in this direction will be attended with fruitful results. They ought to be first pursued in the laboratory. A double direction may be given to these researches. In the case of diseases of which the infectious agent has been isolated and cultivated it would be well to test in the culture liquids the sensibility of the microphyte to divers substances called antiseptic. The same medicaments should then be tried on animals which have been inoculated with the microbes of contagious diseases to which they are susceptible. It is by the blood that the medicament must be made to reach the microbes. Intra-venous injections, which, in the present state of science, ought to be interdicted in the human subject, seem to be the preferable means for the introduction of medicaments in animals under experimentation.

Bouchard, as the result of careful experiments undertaken to ascertain the quantities of antiseptic substances which by kilogramme of the weight of the animal will produce death, and the quantity which may be given with safety, has, in respect to many of these substances, arrived at what he calls the therapeutic equivalent of the medicament, that is, the quantity reckoned by kilogramme of the animal, which, when injected into the blood, does not determine toxic phenomena, but beyond which poisoning takes place. He has made this estimate in the case of seventeen antiseptic substances, and has shown that if you associate the proper therapeutic equivalents of several of these medicaments, the antiseptic action of the mixture is augmented more than its toxic action, hence there is an advantage in giving several antiseptic remedies together. In speaking of cases where the infectious element primarily occupies the surface of organs, Bouchard thinks that medical antisepsis has accomplished sufficient to warrant the expectation of greater success in the future.

It has not yet done in diphtheria all that has been expected of it, through lack of processes which enable us to act with sufficient energy on the air passages; it has been applied blindly to cholera, but it has shown itself sovereign in certain arthrites, in certain pleurisies, and in dysentery.

For nine years Bouchard has employed antiseptic medication in the treatment of the complications which arise in the progress of typhoid fever in consequence of intestinal putrefactions. It is relatively easy to introduce into the digestive tube an antiseptic substance, insoluble or but little soluble, so that not being absorbed it may reach the extremity of the intestinal canal; moreover, the medicament not being absorbable cannot produce, even in large doses, a toxic effect in the economy. In having to choose between salicylate of bismuth and iodoform, he has preferred iodoform, which, associated with charcoal, has a wide range of action, and by reason of its extreme division permeates every portion of the mucous membrane, becoming thoroughly mingled with the contents of the intestines.

Sixty centigrammes of iodoform dissolved in one hundred cubic centimetres of sulphuric ether is mixed with one hundred grammes of wood charcoal powder. After evaporation of the ether the iodoform charcoal preparation is suspended in one hundred and eighty grammes of glycerine, and a tablespoonful of this mixture in a half tumblerful of some kind of drink is given every two hours.

For nine years M. Bouchard has been in the habit of giving in typhoid fever wood-charcoal powder internally in quantities of one hundred grammes a day (or a little over three ounces), in ten doses. His object has been not to act upon the typhogenous agent in the blood, nor even to oppose the intestinal putrefactions, so much as to prevent the absorption of the products of these putrefactions by fixing them to the charcoal, the daily dose of which represents a surface of at least sixty square metres. The fecal matters not only lose their fetor, but are absolutely inodorous, and give by filtration a colorless liquid. It is not only the odorous and coloring matters which are fixed by the charcoal, it is also those alkaloids analogous to the ptomaines whose existence in normal fecal matters he has demonstrated since 1882, and which abound in proportion to the activity of the intestinal putrefactions. These alkaloids add their toxic power to that of the other putrid products, and cause even normal fecal matters (and for a stronger reason those of typhoid fever) to become a permanent source of danger, which is only kept in check by the action of the renal emunctory. It is necessary to watch the evacuations to see that the charcoal does not accumulate in the intestines, and to give a purgative when you have left off the treatment.

"In typhoid fever," says Bouchard, "I have noted an extreme rarity of sacral eschars, and remarked that the tongue remains almost always moist. After the employment of simple charcoal I have seen the hospital mortality fall from fifteen to twenty per cent., and after the employment of the iodoform charcoal it has fallen to ten per cent. The same method of intestinal antisepsis I have applied to other diseases which are accompanied with exaggerated fermentation of the digestive tube; in dilatation of the stomach, for example. I have employed it also in cases where the intestinal fermentations were normal, but where oliguria or renal impermeability led me to fear the supervention of those uræmic intoxications which might, I think, be more properly called stercoræmic.

"In conclusion, I will say, that if medical antisepsis has not thus far accomplished all that it promises, it has already realized some therapeutic progress."

MEDICAL NOTES.

— The *New York Medical Journal* of September 6th devotes an editorial to the Boston City Hospital, of which it speaks in an exceedingly complimentary manner. It regrets that the first volume of medical reports has not been followed by others. When one is reminded that its fourth medical report was issued four years ago the *Journal's* regret seems a little ambiguous.

— We learn from our foreign exchanges that Professor Dr. Braun, of Heidelberg, has received a call to Jena as Professor of Surgery, and the Chair of Physiology at Königsberg, rendered vacant by the resignation of Professor v. Wittich, is to be filled up by Professor Hermann, of Zurich. Professor Dr. L. Mauthner is mentioned as the most likely successor to the Chair of Ophthalmology at Vienna, vacant by the death of Professor E. von Jaeger.

— The munificent bequest of $900,000 by the late Sir Erasmus Wilson to the Royal College of Surgeons of England as residuary legatee is by far the largest legacy the college ever received. The next largest was one of $20,000 from the same benefactor. The *Medical Times*, after suggesting various answers to the natural inquiry, "What will they do with it?" adds: "Now is the opportunity to establish a pathological institute on a scale worthy of the scientific reputation of the English school, an institute duly supplied with professors and assistants, and all the appliances required to carry out the complicated procedures of modern pathological research. No institution in the country is better qualified to initiate and direct this advance than the College of Surgeons, with its traditional connection with John Hunter, and its great pathological museum."

— An unusually large number of houses have been ordered vacated by the Board of Health of this city within the past week. In each case the order has been given after persistent refusal on the part of the owner to remedy existing nuisances, consisting in most cases of defective water-closets or offensive privy vaults.

NEW YORK.

— During the last week of August a sailor was found dying in the streets and removed by the police to a station-house under the idea that he was suffering from alcoholic intoxication. On account of the gravity of his condition he was then taken in an ambulance to the Chambers Street Hospital, where the diagnosis of typhoid fever was made. Finally he was transferred to the New York Hospital, where the true nature of the disease from which the man was suffering, yellow fever, was recognized; the diagnosis afterwards being confirmed by an autopsy made by Dr. Peabody, pathologist to the hospital. The following is a partial description of the post-mortem appearances found: The body well nourished but deeply jaundiced. The heart normal in size, but of a bright yellow color, with the valves, endocardium, and aorta deeply jaundiced. The muscular tissue of the heart contained an abundance of fat, all yellow, soft, and pliable. In the lungs were innumerable hæmorrhages, varying in size from a small pea to a chestnut. The spleen was about four times the normal size, dark in color, and somewhat soft. In the stomach the mucous membrane was congested, but not ulcerated, and the organ contained nearly a pint of fluid, largely composed of dark blood. The intestines, which were somewhat congested in the upper portions, contained throughout a large amount of blood; some of which was thick, dark, and tarry in appearance. The liver was normal in size, but the surface was considerably mottled, and presented areas of a brilliant red color, with yellow centres of acini deeply jaundiced. The kidneys were normal in size, but very yellow, with non-adherent capsules, the surface smooth, and the markings distinct. The man is believed to have been taken sick in some sailor's lodging-house, where his associates knew that he was from a yellow-fever port, and to have been put into the streets when well-marked symptoms of the disease presented themselves. His condition was such when he was found that he was unable to give any account of himself.

— The State Board of Pharmacy, created by the last Legislature, was organized at Albany on September 2d, with Dr. A. B. Heusted, of Albany, as president, and E. S. Dawson, of Syracuse, as secretary.

Correspondence.

THE MODERN VIA AD ASTRA.

A MEDICAL FABLE.

Once upon a time a poor but humane physician was riding along a road which led by a dark forest, when he saw by the wayside a sick and miserable dog which had lain down to die. Moved with pity he got down from his carriage, picked up the poor animal tenderly, and gave it some food and drink. Suddenly the dog vanished, and he saw standing before him a beautiful fairy.

"You have saved me from a miserable doom by your compassion," she said. "Command now anything you wish and it shall be yours."

The astonished physician replied, "I am a poor man. I should like to be rich."

The fairy waved her wand, and extended to him a piece of paper and a bottle filled with a dark-colored fluid. "Here," she said, "is a prescription for an Infallible Compound Hair-Restorer. It will never fail, and it has been indorsed by all the leading clergymen on both continents. The world is yours! Do you wish more?"

"I am a quiet man," replied the doctor, "and little known. I should like to be famous."

"You shall be more; you shall be immortal." Waving her wand again, she presented to him a small, dark, and curiously shaped instrument. "See," she exclaimed, "it is a new and 'Unquestionably Perfect Pessary.' It radically restores every malposition. Your name is blown into the side. Generations of suffering women and successful doctors will read, and bless you. I have tried it myself," she added, blushing a little, and vanished.

M. S.

Miscellany.

"ROSE COLD."

DR. MORELL MACKENZIE writes [1] qualifying a remark in one of his lectures that hay fever was unknown in the "good old times," and admitting that though, both in letter and spirit, this statement is perfectly correct, it too much ignores the fact that an individual idiosyncrasy rendering people sensitive to the influence of rose pollen was not very uncommon two hundred or three hundred years ago. As the term "rose cold" has survived in America, says the author, while it is quite unknown here, I think it probable that the complaint may be much more common on the other side of the Atlantic than it is in England; and it is with the view of eliciting some "modern instances" that I venture to bring under the notice of my fellow-workers in the New World some remarkable examples of rose catarrh as related by writers of the sixteenth and seventeenth centuries.

As early as the year 1565 Botallus [2] (known to fame as the discoverer of the *foramen ovale* in the heart) affirmed that he knew persons who held the smell of roses in deadly hatred, because it gave rise to headache, sneezing, and troublesome itching of the nose. Somewhat later Van Helmont [3] (1577–1644) mentions the odor of sweet-smelling substances as causing headache, and in some cases difficulty of breathing. He also gives [4] the case of a canon who was *totâ æstate propemodum asthmaticus, totâque hyeme liber.* It must be allowed, however, that this passage, though suggestive, is not quite conclusive as to the nature of the malady. In 1673 I. N. Binningerus [5] says that he has often heard from James à Brun, a professor of the medical faculty in the University of Basle, that his wife, Ursula Falcisin (a lady, as he is careful to inform us, whose charms were of the "too, too solid" kind, *ampli corporis et carnosi*), suffered from coryza for several weeks every year during the rose season.

A few years later we find Ledelius [6] recounting the case of a merchant of Grünberg who could not smell a rose without immediately suffering from itching, followed by inflammation of the eyes, with profuse lachrymation and headache lasting some days. We come next to a case of especial interest, which was published in 1691 by I. Constant de Rebecque.[7] This passage is important, as conveying the result of an experienced physician's observation of his own symptoms. He tells us that for thirteen years he had been afflicted with coryza during the rose season, which *per totum tempus quo rosæ se mihi offaciendas præbent durat eoque elapso sponte desinet.*

At first he attributed his sufferings to heat, but in the year 1685, when the summer was exceptionally hot, and there were hardly any roses, on account of caterpillars, he was struck by the fact that his annual disorder did not trouble him. The symptoms came on at once, however, after inadvertently plucking a rose toward the end of the season. He concludes that something flows from roses (*e rosis aliquid effluere*) which stings the nose (in his case exceptionally sensitive) and *aculeis quibusdam solutionem continui et si non sensibus obvium excitet.* This observer, therefore, came very near the mark as to the real cause of the disease, to which he applied the term *coryza a rosarum odore.*

An extraordinary case is related by Herlinus [8] (on the authority of Adrian Spigelius, whose name still survives in one of the lobes of the liver) of a Roman cardinal, Oliver Caraffa, who could not bear the smell of roses. This is confirmed from personal knowledge by another writer,[9] who adds that Caraffa was obliged, every year, to shut himself up during the rose season, guards being stationed at all the gates of the palace to stop any visitor who might be wearing or carrying the dreaded flower. It is, of course, possible that in this case the roses may have produced some other affection than rose fever, but as it is distinctly stated that it was the *smell* to which the cardinal objected, we may, I think, fairly conclude that the "sting of the flesh" which tormented him was, in fact, rose pollen.

About the end of the seventeenth century Riedlin [10] relates the case of a merchant with whom he was acquainted, who was afflicted with sneezing and catarrh every year when the roses were in bloom. Riedlin advised his patient to avoid the *cause* of his complaint, a point beyond which we have not even yet advanced.

Heberden's [11] observations make a kind of connecting link between the rose catarrh of the seventeenth century and the hay fever of the nineteenth, for though this physician does not seem to have been at all aware that the complaint had any connection with flowering plants, he mentions casually that five of his patients suffered from catarrh for a month every summer, while another was similarly affected during *the whole of that season.*

In conclusion, Dr. Mackenzie says that he will feel greatly indebted to any American physician who may be able to bring under his notice any well-authenticated case of rose cold.

THE MODE OF ORIGIN OF GENERAL MILIARY TUBERCULOSIS.

THE *Medical News* (July 5, 1884,) remarks editorially that although it has been for some time recognized that a very large number of cases of general miliary tuberculosis are secondary to primary foci, it cannot be said that we have had, until quite recently at least, any accurate information as to the *modus operandi* of such foci.

Buhl early asserted that the general process originated in absorption from a softening mass of cheesy matter, but how this took place, and why in the majority of instances the cheesy focus fails to give origin to secondary miliary tuberculosis, he did not explain. Ponfick's discovery of tuberculosis of the thoracic duct, and Weigert's of tuberculosis of the veins, brought us a step nearer to the solution of the problem. The latter published, in 1879, three cases of acute general

[1] Medical Record, August 30th.

[2] Commentarioli Duo alter de Medici, alter de Ægroti Munere, Lugduni, 1565, p. 23.

[3] Asthma et Tussis, cap. x. (Opera Omnia, Hafnæ, 1707, p. 344).

[4] Ibid., cap. xxiv. (Opera Omnia. p. 346).

[5] Obs. et Curat. Medicinal Centuriæ Quinque Centur. Secunda, obs. lxxxvi. Montbelgardi, 1673, p. 227.

[6] Miscell. Nat. Curios. Lipsiæ, Dec. ii., Ann. 2, obs. 140, p 309 (probably 1682).

[7] Atrium Medicinæ Helvetiorum, Obs. rar. et curat. insign., obs. 92, Geneva, 1691, p. 150 et seq.

[8] Henricus Herlinus, De Remediis Sudoriferis et Analepticis, p. 32. Lipsiæ, 1693.

[9] Joh. Pierius, Hieroglyphica, lib. 8, cap. 25, p. 96. Francofurti, 1678.

[10] Linea Medicæ, Augustæ Vindelicorum, 1695, p. 177.

[11] Commentarii de Morborum historiâ et curatione, Londini, 1802, cap. xxiv., De Destillatione, p. 118 et seq.

miliary tuberculosis in which he had discovered a large thrombus-shaped tubercular focus in a pulmonary vein, which he regarded as the starting-point of the tuberculosis. In 1882 he reported nine cases of acute general miliary tuberculosis, in seven of which he found tuberculosis of veins, and in two tuberculosis of the thoracic duct. The former appeared as true tubercular infiltrations of the vessel walls, projecting into the interior of the vessel in a thrombus-like or polypoid manner, smooth, except at a single point of ulceration, and centrally cheesy. Upon these observations Weigert based the assertion that *acute general miliary tuberculosis*, in adults at least, *depends upon a tubercular focus either in a vein or the thoracic duct* — ascribing the acute tuberculosis to the sudden introduction of a large quantity of tubercular poison, either from a large focus, or numerous small foci, while that form of general miliary tuberculosis in which only a few nodules are found in separate organs, is ascribed to the disintegration of a small vein-tubercle. So, too, the nodules of varying size and limited number found in the spleen, liver, or other organs, along with pulmonary tuberculosis, he ascribed to the introduction of a small amount of tubercular matter into the blood.

Quite recently, Weichselbaum, in the *Wiener med. Wochenschrift*, No. 12, March 22, has apparently supplied the missing link in the proof of this proposition, by the publication of three cases of acute general miliary tuberculosis in which, associated with tuberculosis of the veins, he found tubercle bacilli in the blood of the patients after death. The first case was that of a young woman of twenty-five, who died of phthisis six days after aborting of a four months fœtus. She had suffered with cough, shortness of breath, and fever for some weeks previous. The autopsy revealed tuberculosis of the uterine veins at the insertion of the placenta, both Fallopian tubes distended with cheesy matter, and their mucous membrane injected, thickened, and infiltrated with small nodules. Some of the cheesy and softened tubercular nodules, as large as a pea and containing nests of closely packed bacilli, protruded into the lumen of the veins and fused with the thrombi found in their interior. Out of twelve slides of blood from a heart-clot — clotted blood was used because of its containing a large proportion of bacilli — four contained the bacilli.

The second case was a man of forty-three, in whom a branch of the pulmonary artery in the right upper lobe contained a polypoid tubercle larger than a bean, ulcerated at one point, cheesy at its centre, and continuous with a large cheesy focus in the same lobe. Preparations from a white thrombus from the left ventricle contained relatively numerous bacilli in groups of from two to six, as did also fresh coagula, and even fluid blood from the femoral vein, although in smaller numbers.

The third case exhibited, besides general miliary tuberculosis, cheesy foci and bronchiectasis, a cheesy abscess about the tendon of the right supinator longus muscle, and chronic tuberculosis of the seminal vesicles, the left vas deferens, the epididymis, and prostate. A cheesy mass surrounded a large vein of the pudendo-vesical plexus, and in one place had perforated the vein. Out of nine preparations made from heart coagula, two contained bacilli.

Weichselbaum believes it a necessary inference from these facts, that in chronic general miliary tuberculosis, that is, the form in which along with pulmonary tuberculosis single nodules of different size and age are found in the liver, spleen, or kidneys, these secondary deposits arise in the same way, even though the bacilli are not found in the blood, since they may easily escape detection when few in number. In support of this view, Weigert has found in two cases of this kind small tubercles in the walls of veins.

COMBINED VERSION IN PLACENTA PRÆVIA.

C. Behm [1] has used combined version in forty cases of placenta prævia, without a single death. This must be regarded as an extraordinarily good result for a condition which ordinarily gives a mortality of forty per cent. Hofmeier has already obtained similar results in the treatment of placenta prævia.

The operation is performed as follows: When dangerous hæmorrhage comes on the vagina should be tamponed until the cervix is closed. This being done, and the woman anæsthetized, the whole hand is introduced into the vagina, and two fingers into the cervix. If the membranes present, the operator endeavors to rupture them with the finger, then draws the presenting part (unless it be the buttocks) to one side, at the same time making pressure from without so as to carry the buttocks down, until he can grasp a foot. This is drawn through the cervix, so that the breech acts as a tampon on the lower segment of the uterus, and the placenta is pressed against the sides of the uterus. In central implantation of the placenta, the finger should be pushed through the centre.

After this version the operator waits for the spontaneous expulsion of the child, or at least complete spontaneous dilatation of the cervix, in order to complete delivery. The duration of labor after version is between one half an hour and eleven hours, the average being one or two hours.

The mortality for the children by this procedure is very great, but the chances for the mother are better. The mortality for the children is, however, no greater than by the old operation.

The causes of the great mortality of the mother under the use of the continuous tamponade is the infection through the blood and other matters adhering to the tampon.

ON THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS AND SCROFULOSIS IN CHILDREN.

Tuberculosis is exceedingly common in children, and evidences of it are found in more than half the children dying within the first six months whose bodies are examined. The two objects of prophylaxis are, firstly, to combat the disposition to disease; and, secondly, to ward off infection. The first indication is fulfilled by providing good food, warm clothing, fresh air, a country life, and sea bathing. Infection, that is to say, the bacillus, for the whole paper is written from this stand-point, finds its way either by inhalation, by food, by some mechanical inoculation, or by general diffusion from some previously isolated patch. The commonest path is by inhalation, and accordingly we find the primary disease most frequently in the thoracic

[1] Centralbl. f. d. gesammte. Therap., July, 1884, and Med. News, August 16, 1884.

cavity, the disease commencing in the bronchial glands, in the bronchi, or in the lung itself. To save the child from the introduction of the germ in this way we should instill into those who have charge of it the danger that may arise from sleeping with, kissing, living in a small, confined room with parents or relatives already diseased, and insist upon the necessity of efficient ventilation. Infection by food is not so frequent, but it may be caused by the milk of a diseased cow; boiling the milk removes this danger; and tubercular mothers should not be allowed to nurse their children. Mechanical inoculation may take place from lupus, ulcerating scrofulous glands, or other open scrofulous sores, and possibly, though it has never been proved, from vaccination. Should future investigation prove that the infection of tubercle is spread from these sources, then far greater care than is now taken must be exercised in allowing children suffering from these disorders to associate with the healthy. Swollen scrofulous glands should be removed. The treatment of tubercle and scrofula, as there is no specific remedy known, is comprised in careful management of the symptoms, such as catarrh and diseases of the glands and bones, as they arise, in attention to general hygiene, and in the choice of a suitable climate. — Dr. Förster, *Jahrbuch für Kinderheilkunde*, Band xxi., Heft 3.[1]

IS INTROMISSION NECESSARY TO CONCEPTION?

THIS question has been pretty conclusively answered in the negative, but well-authenticated cases in proof of it are not yet superfluous. Two such are cited in the *Medical Press* (July 16), one reported by Dr. Cass, of Dresden, and a second by Dr. Longshore, in the *Philadelphia Medical and Surgical Reporter* of June 1st. Dr. Cass was called to attend a lady in her third confinement. An examination being made, he found the vaginal canal almost entirely closed, at a point two and one half inches from the orifice, by a firm, unyielding band or curtain. On the pubic side of this curtain there was an opening barely sufficient to permit of the introduction of the top of his little finger. This obstruction was the result of some inflammatory mischief after the birth of her second child, and when she discovered it first she was greatly pleased, as she thought it would prove a sufficient bar to conception. Direct intromission of semen into the womb was evidently impossible; nevertheless, conception had taken place, and the patient's hopes of safety from child-bearing blighted. The membrane was ruptured with the exercise of some force during labor, and delivery safely effected.

Dr. Longshore reports of his case that he was consulted by Mrs. A., a recently married woman, aged nineteen. She had always menstruated regularly and comfortably until after her marriage, which had taken place some three months before coming under his care. Coition was impossible, as the os externum was closed by the hymen, which was very firm and inelastic. It was only after a long and diligent search that a foramen large enough to admit, with difficulty, a No. 11 catheter was found close under the urethra. This condition was undoubtedly congenital in its origin. All her symptoms indicated pregnancy. Dilatation failing, the hymen was divided by means of scalpel and director. Six months afterwards the lady had a normal confinement, from which she made a good recovery. This case proves the possibility of conception under circumstances where it was absolutely necessary for the spermatozoa to travel a long way before impregnation could take place.

[1] Edinburgh Medical Journal, August, 1884.

THE USE AND ABUSE OF THE FORCEPS.

PROFESSOR GOODELL made the following observations in a recent clinical lecture (*Philadelphia Medical Reporter*, June 14th): "Tears of the perinæum will occur whether the physician uses the forceps or not, but in the majority of cases they come from the use of the forceps, or rather from the abuse of the forceps. Let me give a piece of advice to you as young men. When the proper time comes put on the forceps and boldly bring down the head, but when it begins to bulge the perinæum, take off the forceps. I do not think that any of you are competent to deliver the head over the perinæum with forceps. The temptation is to turn the head out too quickly. If you take off the forceps you will rarely have a bad tear, and if it does occur you will not get the blame for it. It is a very rare thing for me to end a labor with the forceps on. When the perinæum begins to bulge, I support the handles to see whether the pains are strong enough to end the labor. If so, I remove the forceps. There is such an abuse of this instrument that I sometimes think that Baudelocque was right when he said that the forceps had done more harm than good. It requires great skill and judgment to end a labor with the forceps. A physician from inexperience, or being demoralized by a long and tedious labor, is liable to use undue violence and deliver the head too quickly, or to make traction in the wrong direction. I have myself torn the perinæum and seen many good physicians do the same. From this experience I should recommend that, unless there be an excellent reason for contrary action, the forceps be taken off when the head reaches the perinæum. Occasionally one blade will catch over an ear and you cannot get it off; but in the majority of cases it can be removed, and that is the proper thing to do."

THE SUPRARENAL CAPSULES.

PROFESSOR TIZZONI has recently[2] performed a number of experiments on rabbits, with the view of clearing up several points in regard to the office of the suprarenal capsules. The usual course was to evacuate the contents of the fibrous capsule of one or both sides. The parenchyma, in the form of a yellowish white pultaceous mass, either escaped into the peritoneal cavity or was altogether removed. Apart from a few exceptional instances of meningeal exudation and softening of the spinal cord, the animals did not appear to suffer in general health by the operation. There was as a rule little traumatic fever and suppuration. Nutrition was rarely impaired; and, in fact, an increase of weight was generally noticed within eight days. The result did not appear to be at all influenced

[2] Gazz. degli Ospitali, June 22d, and London Medical Record, August 15th.

by allowing the parenchyma to remain in the cavity of the peritonæum, where it became absorbed. The interesting point is now to come. After the lapse of some time (length of time not precisely stated) a brown discoloration of the muzzle was observed. Later it extended to the cavity of the mouth and of the nose. It began in the form of small spots, which gradually increased and became blended. This discoloration, it should be noted, never occurred in white rabbits. When only one suprarenal capsule was removed, the pigmentation was exclusively or chiefly on the side operated upon. The altered distribution of pigment was the only effect of the operation, and the group of symptoms that constitute Addison's disease could not be produced experimentally. Touching the histological changes, regeneration was observed in two instances, in each of which the organ had in great part been destroyed. In one of these cases, one hundred and forty-four days after the operation, a suprarenal capsule was found in all respects identical with a normal capsule. In the other case, twenty-six days after the operation, a small nodule of newly formed tissue, consisting of both cortical and medullary substance in process of active development was found. In the connective tissue that surrounded the nodule was a network of the sympathetic, with very fine meshes and large filaments provided with numerous large ganglion cells. The enlargement of the remaining capsule, when only one was removed, was at the expense of the cortical rather than of the medullary substance.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 30, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	692	373	32.24	14.70	20.44	1.54	4.20
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	270	155	41.58	5.94	25.08	5.61	3.63
Boston	423,800	204	90	39.20	9.33	23.52	8.33	5.39
Baltimore	408,520	152	62	29.04	12.54	10.56	2.64	9.90
St. Louis	400,000	136	35	23.68	11.84	13.32	2.96	.74
Cincinnati	272,400	109	46	20.24	9.20	12.88	.92	2.76
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	52	30	42.24	11.52	34.56	—	3.84
New Haven	62,882	39	18	38.40	10.24	25.64	7.68	—
Nashville	54,400	27	10	33.30	29.60	18.50	—	11.10
Charleston	52,286	—	—	—	—	—	—	—
Lowell	71,447	31	21	41.60	12.80	28.80	—	—
Worcester	69,442	24	13	48.92	4.16	45.76	—	4.16
Fall River	62,674	28	20	39.60	3.57	28.56	—	3.57
Cambridge	60,995	26	11	38.46	19.23	22.10	3.85	7.70
Lawrence	45,516	19	7	11.55	15.43	3.85	—	—
Lynn	44,895	16	10	18.75	12.50	18.75	—	—
Springfield	38,090	22	11	45.45	18.18	36.36	—	—
Somerville	31,350	10	5	40.00	10.00	40.00	—	—
Holyoke	30,515	9	6	55.55	—	33.33	—	—
New Bedford	30,144	20	12	55.00	10.00	50.00	5.00	—
Salem	29,503	8	6	37.50	—	12.50	—	—
Chelsea	24,347	15	8	33.33	6.66	33.33	—	—
Taunton	22,693	6	0	—	—	—	—	—
Gloucester	21,400	—	—	—	—	—	—	—
Haverhill	20,905	6	2	—	33.33	—	—	—
Newton	19,421	2	1	—	—	—	—	—
Brockton	18,323	3	1	66.66	—	66.66	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	2	1	—	—	—	—	—
Fitchburg	13,433	8	4	50.00	12.50	50.00	—	—
Ninety- three Massachusetts towns	375,734	84	27	—	—	—	—	—

Deaths reported 2093: under five years of age, 1044; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 715, diarrhœal diseases 456, consumption 242, lung diseases 121, diphtheria and croup 77, typhoid fever 53, scarlet fever 36, whooping-cough 35, measles 24, malarial fevers 14, cerebro-spinal meningitis 12, puerperal fever five, erysipelas two, typhus fever one. From *scarlet fever*, Boston eight, New York six, St. Louis five, Chicago four, Baltimore, Cincinnati, and New Haven two each, Milwaukee, Providence, Lowell, Lawrence, Springfield, Holyoke, and Salem one each. From *whooping-cough*, New York 14, Boston eight, Chicago five, Baltimore and Milwaukee two each, Cincinnati, Providence, Cambridge, and Salem one each. From *measles*, New York 13, Chicago 10, Fall River one. From *malarial fevers*, New York, Baltimore, and St. Louis four each, Nashville and Springfield one each. From *cerebro-spinal meningitis*, New York five, Lowell three, Chicago, Boston, Lawrence, Springfield, Holyoke, and Salem one each. From *puerperal fever*, Chicago two, New York, Baltimore, and Milwaukee one each. From *erysipela*, New York and Fall River one each.

Cases reported in Boston: scarlet fever 56, typhoid fever 34, and diphtheria 14; in Milwaukee: scarlet fever 21, and diphtheria two.

In 112 cities and towns of Massachusetts, with an estimated population of 1,429,739 (estimated population of the State 1,955,104), the total death-rate for the week was 19.75 against 20.93 and 22.24 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,620,975, for the week ending August 16th, the death-rate was 24.1. Deaths reported 4052: acute diseases of the respiratory organs (London) 162, diarrhœa 789, measles 103, fever 68, whooping-cough 68, scarlet fever 49, diphtheria 21, small-pox (London nine, Sheffield one) 10. The death-rates ranged from 17.4 in Bristol to 43.3 in Wolverhampton; Birmingham 27.6; Blackburn 28.3; Bradford 25.7; Leeds 29.2; Leicester 28.3; Liverpool 26.7; London 21.2; Manchester 25.6; Nottingham 30.5; Sheffield 27.1. In Edinburgh 15.9; Glasgow 26.0; Dublin 24.2.

For the week ending August 16th, in the Swiss towns there were 42 deaths from diarrhœal diseases, consumption 30, typhoid fever nine, lung diseases eight, scarlet fever two, diphtheria and croup two, small-pox one, whooping-cough one. The death-rates were, at Geneva 9.2; Zurich 11.8; Basle 12.4; Berne 23.3.

The meteorological record for the week ending August 30th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
August, 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 24	30.060	65	75	55	58	40	62	53	W	NW	NW	9	20	8	C	C	C	—	—
Mon., 25	30.283	57	64	51	64	61	84	70	NW	SE	SW	7	13	14	C	C	C	—	—
Tues., 26	30.054	63	70	55	95	95	95	95	SE	S	W	11	8	9	R	O	C	—	—
Wed., 27	30.125	65	77	60	80	70	87	79	NW	SE	SW	7	9	6	C	C	C	—	—
Thurs., 28	30.085	65	76	55	100	69	93	87	W	S	SW	3	7	7	O	C	C	—	—
Fri., 29	29.888	68	73	60	99	97	93	96	SE	S	SW	3	13	8	O	R	O	—	—
Sat., 30	29.789	72	81	69	93	86	99	93	S	S	SW	9	12	6	O	O	O	—	—
Mean, the Week.			74	58														24.35	0.51

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OBITUARY.

CHARLES WALTER CHAMBERLAIN, M. D., Secretary of the State Board of Health of Connecticut, died at Hartford August 21st, at the age of forty years. Dr. Chamberlain received the degree of A. B. at Brown University, and was graduated in medicine at the College of Physicians and Surgeons of New York in 1871. He was for a number of years examining surgeon to the Pension Bureau, and was well known throughout the country as a distinguished sanitarian. He has from time to time furnished interesting reports to the JOURNAL.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM AUGUST 31, 1884, TO SEPTEMBER 5, 1884.

BYRNE, CHARLES C., major and surgeon. Relieved from duty in Department of California, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 207, A. G. O., September 3, 1884.

TOWN, F. L., major and surgeon. Relieved from duty in Department of the Columbia, and to report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 207, C. S., A. G. O. Granted leave of absence for twenty-five days. S. O. 127, Department of the Columbia, August 25, 1884.

HAVARD, VALERY, captain and assistant surgeon. Relieved from duty in Department of Texas, and to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 207, C. S., A. G. O.

HALL, WILLIAM R., captain and assistant surgeon. Relieved from duty in Department of Texas, and to report in person, on October 1, 1884, to the superintendent general recruiting service in New York City, for duty at David's Island, N. Y., relieving Assistant Surgeon M. E. Taylor from duty at that station. S. O. 207, C. S., A. G. O.

GIBSON, R. J., first lieutenant and assistant surgeon. Relieved from duty in Department of the Missouri, and to Department of California for duty. S. O. 202, A. G. O., August 28, 1884.

HOPKINS, WILLIAM E., first lieutenant and assistant surgeon. The leave of absence granted him in S. O. 67, August 7, 1884, Department of Arizona, is extended one month. S. O. 204, A. G. O., August 30, 1884.

DIETZ, WILLIAM D., first lieutenant and assistant surgeon. Relieved from duty at the Military Academy, West Point, N. Y., and ordered to the Department of the Missouri for duty. S. O. 202, A. G. O., August 28, 1884.

CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 6, 1884.

RIXEY, P. M., passed assistant surgeon. From special duty at Washington, D. C., September 8th, and to the Lancaster, European Squadron.

OBERLY, A. S., surgeon. From the Richmond, August 30th, and wait orders.

DICKSON, S. H., passed assistant surgeon. From Asiatic Squadron, July 29th. Sick leave August 30, 1884.

DIED, — In Havilah, Cal., August 31, 1884, Frank Abner Langworthy, M. D., M. M. S. S., aged thirty-four years ten months thirteen days.

BOOKS AND PAMPHLETS RECEIVED. — The Formation of Poisons by Micro-Organisms. A Biological Study of the Germ Theory of Disease. By G. V. Black, M. D., D. D. S. Philadelphia: P. Blakiston, Son & Co. 1884.

The Treatment of Diabetes Mellitus. By Austin Flint, Jr. M. D. Reprint from Journal of the American Medical Association, July 12, 1884.

Twenty-Fifth Annual Announcement and Catalogue of Hahnmann Medical College and Hospital of Chicago, Ill.

On a New Method of Recording the Motions of the Soft Palcate. By Harrison Allen, M. D., Professor of Physiology, University of Pennsylvania. Philadelphia: P. Blakiston, Son & Co. 1884.

Diphtheria, Croup, etc., or the Membranous Diseases: Their Nature, History, Causes, Treatment, etc. Also a Delineation of the New Chloral Hydrate Method of Treating the Same. By C. B. Galentin, M. D. New York: J. H. Vail & Co. 1884.

Lectures.

TUBERCULOSIS OF THE SEROUS MEMBRANES; DEATH; AUTOPSY.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

BY WILLIAM PEPPER, M. D., LL. D.,

Provost of and Professor of Clinical Medicine in the University of Pennsylvania.

GENTLEMEN, — I shall briefly read the history of this young woman, as it is of importance in the diagnosis.

C. K., seventeen years of age, was born in this country. She has lived in a malarial district of Delaware, and has been occupied as a domestic, working hard, and sometimes, especially in summer, much exposed to damp and bad weather. This was particularly so in the summer of 1882. Her father and mother present a history of rheumatism. She had all the ordinary diseases of childhood excepting scarlet fever. She was perfectly strong and hearty until eight months ago, when, after slight exposure, she was taken sick with pains through the body, headache, loss of appetite, feverishness, some sore throat, with a hacking cough, dull pain behind the sternum, and so much shortness of breath that it was impossible for her to lie down for several days. This reads very much like an attack of influenza. The attack came on suddenly, with general soreness, pains through the body, headache, loss of appetite, fever, sore throat, cough, pain behind the sternum, and so much dyspnœa that she could not lie down for several days. This was probably not pneumonia, for we find that in a few days the general symptoms and dyspnœa had disappeared, and that she had returned to her normal condition, with the exception of a little cough, which remained for three months. This was dry and hacking, accompanied with scanty mucous expectoration. This, as I have said, sounds very much like the history of an attack of influenza, followed by a catarrhal condition. Of course it is not impossible that it might have been an attack of rheumatism with some heart complication.

Last May she had an attack of acute articular rheumatism, beginning in the feet and involving almost all the joints in the body, attended with very little fever or sweating, but with pain which was sometimes so severe as to bring on a nervous chill. This rheumatism lasted for two months and a half, and since then she has never felt well. Her appetite has not been good, and after eating she has had distress and a great deal of flatulence. The bowels have been regular. She has steadily lost flesh and strength. About October 1st, nine weeks ago, she noticed that the belly was beginning to swell, and this has continued to increase. At the same time she began to have occasional pain in the hypochondriac region. This was never very continuous or severe, and recently has been even less. Since the first of October she has had to urinate more frequently, and the quantity of urine seems to have been increased.

When admitted she was pale. The pupils were dilated, the right somewhat more than the left, but this may have been a natural peculiarity. The pupils reacted well to light. The tongue was coated, the appetite moderate, and the dyspepsia less marked than it had been, the bowels regular. There were occasional pains through the right chest on taking a long breath. There was a hacking cough, which was worse at night, and was accompanied with a little scanty mucous expectoration. All the time she complained of a sense of shortness of breath. Physical examination of the right side showed no marked signs, but on the left side, in front, from the third rib to the base of the chest, there was flatness on percussion; behind, the whole left side was flat. Over this region there was little vocal fremitus and resonance, and the breath sounds were distant and feeble. The breath sounds were heard a little more distinctly in front, and above the level of flatness a few friction sounds were heard. The area of flatness seemed to change somewhat with change of position. The heart was pushed a little to the left, and on ascultation there was heard a high-pitched, very rough, mitral, systolic murmur. The pulse was dicrotic. The belly was distended, but the veins were not enlarged. As far as could be determined neither the liver or spleen was altered. As I have told you, she passed water too frequently, but it contained no albumen. During November she menstruated and then suffered from some dysmenorrhœa. During all this time she has had some fever, which has ranged between a morning temperature of 99° F. and an evening temperature of over 100° F. or 101° F. On one occasion it was as high as 103.5° F. It presents a considerable diurnal variation of a hectic type. There have been no night sweats. The belly has been diminishing a little in size. She has had a good deal of pain in the right side. About December 4th, four days ago, she began to complain of pain in the head, and she also had some deafness. The fever continued as before.

December 6th the following note is made: "Had no headache this morning, but severe during the night. She had slight wandering delirium at night; no vomiting; bowels regular."

December 7th. More delirious during the night, singing, crying, and laughing, and complaining of severe headache. This passed off in the morning. The dullness of hearing increased. During the day the mind was perfectly clear."

When admitted she was put on Basham's mixture with alkaline diuretics. When the fever continued full doses of quinia were given for a number of days, eighteen grains per day being given with solution of acetate of ammonia. This proving unavailing we returned to Basham's mixture and cod-liver oil. As you see, the treatment has consisted of careful attention to diet and in the use of diuretic iron mixture and alkaline diuretics to carry off the pleural and peritoneal effusions, and more recently in the use of bromide of potassium to control the cerebral symptoms which have been mentioned.

This case has given a great deal of anxiety, largely on account of the difficulty in diagnosis, as you see the morbid elements which are present are numerous. You also see why it was that I referred to the possibility of the first attack being one of rheumatism. Her family presents a strong tendency to rheumatism, and in May, five months after the first attack, she had a severe attack of ordinary acute articular rheumatism, which has left behind it mitral regurgitation, as shown by a strong, low-pitched, rough mitral, systolic murmur. In addition, we have coming on without any œdema, internal dropsies, right pleural effusion and ascites, and this long-continued febrile action, and more recently these cerebral symptoms.

In trying to arrive at a correct understanding of the nature of this case the following thoughts have occurred to me. Is this a case of chronic malaria, complicated with sub-acute rheumatism and great anæmia leading to these internal effusions? Is it a case of protracted rheumatic fever with ulcerative endocarditis, with the endocarditis progressing, keeping up the irregular fever with irritation of the serous membranes causing effusion, as will sometimes occur in these long-continued cases of septic rheumatic trouble? Not rarely in such cases will you find nervous symptoms appearing in their course. Is it a case of rheumatic trouble with serous tuberculosis, causing tubercular pleurisy and peritonitis and recently tubercular meningitis? It is very difficult to answer these questions.

You will observe from the history that all renal complications must be left out of consideration. The urine has always been normal. There is no question as to the lesion of the heart. The only question is whether or not it existed before the last attack.

The effusion on the right side interfered greatly with determination of the condition of the lung. Now that this is somewhat removed we may be able to obtain better results. On auscultation, I detect on the left side, in front, below the outside of the cardiac region, sharp, crackling, friction sounds. Over the lower part of the right chest in front, where it is still comparatively dull and slightly tender, the respiratory murmur is weak, but there are no râles or friction sounds. Posteriorly the respiratory murmur is feeble, distant, and blowing. After coughing, I hear a few deep-seated, coarse, snoring râles. The right pleura is thickened by exudation, compressing the lung. This exudation is plastic. There is a condition of chronic pleurisy of the right side, and there is a small patch of dry pleurisy on the left side.

Let us now turn to the abdomen. The distention has been somewhat reduced, but fluctuation is still very distinct. The abdomen is very tender on pressure; I think that there can be little doubt that this effusion is dependent on peritonitis. This is not a passive effusion. There is no affection of the kidneys nor of the liver. The liver is not enlarged, and there is no jaundice. There has been pain which has been referred to the region of the liver and to the right shoulder as though the capsule were involved, but that would not be improbable on the supposition that there was peritonitis. The heart lesion cannot explain the ascites. There is no œdema of the feet or hands, and in cardiac dropsy internal effusion, and especially ascites, does not occur unless the œdema is very great. The degree of the heart trouble is not very serious, but its quality may be. To this I shall refer in a minute. I think that we must regard the peritoneal and pleural effusions as irritative and the result of inflammation of the membranes.

I feel less certain in regard to the nature of the cerebral symptoms, and before expressing any opinion I shall wait until I have obtained the result of the ophthalmoscopic examination, which I consider necessary. At present her condition is a typhoid one, and it would not be unnatural that, after such an illness, cerebral symptoms of a low, adynamic, typhoid type should develop. I should warn you against concluding, even in the presence of the most threatening symptoms, that organic disease of the membranes had developed. We have in the ophthalmoscope a most important aid in the diagnosis of such cases as this, and one which should always be employed. In meningitis, especially of the tubercular variety, retinal changes are apt to develop, which are sometimes so characteristic as to enable the diagnosis to be positively made at a glance. If the symptoms are due to the typhoid condition the results of the examination will be negative.

What other condition than tubercular peritonitis and pleurisy could we have running a slow course and engendering a low typhoid condition with cerebral symptoms the result of the adynamic condition or of meningeal irritation? Another explanation might be found in a septic state of the system from ulcerative endocarditis, a rare condition, but one which is met from time to time, and presents such peculiar symptoms that it requires careful study before it is recognized. Ulcerative endocarditis runs the course of chronic pyæmia. The detritus from the degenerating endocardium, which presents little ulcers which sometimes perforate the valve and sometimes form little masses on the surface of the valve, is thrown into the blood, and passing through the system gives rise to numerous minute septic emboli. Septic foci are established in the spleen, kidneys, and lungs, and with this there is pyæmic fever of a hectic type with marked diurnal variations in temperature, sometimes with distinct sweating, but not, as a rule, with the drenching sweats which attend the rapid development of surgical pyæmia. This runs a slow and chronic course. It is attended with various secondary lesions. Sub-acute inflammation of the serous membranes is not rarely met with. Here we have a girl who has had an attack of a vague character and a second attack of distinct rheumatism, who now has marked cardiac disease. There is no history of tubercular disease in her family. But this is not essential. The association of tuberculosis with cardiac disease is not frequently met with, but still it may occur.

In either case the prognosis is most grave. If there were lesions in the lung there would be no doubt as to the diagnosis. As it is, I must say that my own judgment is in favor of the view that there is tuberculosis of the serous membranes. The ophthalmoscopic examination will be of great importance. I shall have it made and give you the results next week.

The diagnosis rests between these two rare and grave conditions, and on the whole I think that the balance of evidence is in favor of the view that there was an old mitral lesion which was increased by the last attack, and which is now associated with tuberculosis of the serous membranes.

The treatment has been simply a supporting and apyretic one. We cannot use specific remedies against either of these conditions. I do not think that we can do better than continue the careful regulation of diet and the tonic and deobstruent treatment which has been pursued, and the use of bromide when called for to allay the excitement.

(The ophthalmoscopic examination showed indications of intra-cranial trouble. Descending neuritis with œdema of the retina was found, but no retinal tubercles were detected.)

December 22d Dr. Pepper again referred to this case as follows: —

The young girl, C. K., whom you saw two weeks ago, gradually failed and died on December 16th. The autopsy was made by Dr. Formad, who gives us the following report: "A tall, well-shaped girl, not markedly

emaciated, but very anæmic in appearance. The abdomen greatly distended with gas and ascitic liquid. Old adhesions obliterated entirely the right pleural cavity. There was no liquid effusion. The pericardium was normal, but contained about five ounces of clear fluid. There was slight thickening of the mitral valve and shortening of the cordæ tendinæ, allowing regurgitation. The right lung was collapsed, the pleura much thickened by plastic exudation and the seat of tuberculous formation. A moderate amount of gray miliary tubercles were found scattered through the substance of the right lung. The left lung also contained a number of gray tubercles, but not as many as the right lung, and without plastic pleurisy.

"The peritoneal cavity contained two quarts of straw-colored liquid. All parts of the peritonæum presented gray tubercles. There were old adhesions in many parts, particularly in the lumbar region around the mesentery and pancreas, matting together the viscera. This new-formed mass was crowded with tubercles. The lymphatic glands were moderately enlarged but not cheesy.

"The liver was normal, its capsule studded with tubercles, but no tubercles were discovered in the parenchyma. The spleen was covered with tubercles, but none inside. The kidneys showed signs of an early stage of chronic parenchymatous nephritis, but this certainly had not advanced far enough to cause alteration of the urine, for this was carefully examined a number of times with negative results.

"The brain was normal, only a few gray tubercles being found in the Sylvian fissure. There was about sixteen ounces of serous effusion."

Original Articles.

CONCERNING THE ÆTIOLOGY AND PATHOLOGY OF HYDRAMNIOS.[1]

BY CHARLES M. GREEN, M. D.

Since writing the paper[2] which I read to this Society in February last, wherein I sought to formulate the present knowledge of the origin and pathology of hydramnios, I have met with another contribution to our knowledge of the subject by Dr. Nieberding of Würzburg, who has recently observed and carefully recorded[3] two cases.

In the winter of 1883 Nieberding observed hydramnios in a case of twins from one ovum which he reported in a monograph entitled Beitrag zur Kenntniss der Genese des Hydramnion. In this case not only was one twin more developed than the other; but there was a considerable effusion in its cavities and great œdema of its whole body: hydramnion existed in only one of the amniotic sacs, and that one contained the larger fœtus. The placenta was single, and that part of it which nourished the larger fœtus was of greater size and was in a high degree infiltrated with serum. The pregnancy terminated at the end of the sixth month, and while the smaller fœtus showed no anomaly except a certain hyperæmia, examination of the larger fœtus disclosed a considerable hypertrophy of the heart and kidneys, and great infiltration of all the organs with red and white blood-corpuscles. The hypertrophy of the heart was chiefly of the left side.

If now the question is asked, says Nieberding, to what causes are to be attributed the pathological increase of the liquor amnii of one sac and the dropsy of the fœtus contained in this sac, it must be answered that it is possible that an increased transudation from the maternal blood-vessels might have been the causal factor. Since, however, originally the size and presumably the permeability of both embryos were approximately the same, there is no reason why one sac should be thus filled and not the other. The idea that the vasa propria of one part of the placenta contribute conspicuously to increase the amount of the liquor amnii over and above the same vessels of the other part Nieberding says must be abandoned, since it was established by microscopical examination in this case that the chorionic capillaries were equally developed on both parts of the placenta and that those of the hydramnic part, instead of remaining patent longer than usual, were in great part obliterated. Nieberding therefore believes that the cause of the hydramnic condition of one sac in conjunction with dropsy of the contained fœtus must be sought in the circulatory conditions of this fœtus; and this belief is warranted by the pathological appearances in the present case, which were as follows: hypertrophy of the heart, especially of the left side; great enlargement of the kidneys with dilatation of the pelves, filling of the glomeruli with red and white blood-corpuscles, and the presence of moderate blood-extravasations; considerable dilatation of the ureters and of the bladder, although the urethra was entirely permeable. These pathological changes must have their causes, and these causes were traced by Nieberding to a premature obliteration of the ductus arteriosus. The early closure of this duct must surely entail great changes in the fœtal circulation: more blood must perforce enter the lungs; at the same time the blood-tension in the right ventricle must be greatly increased. On account of this tension not only would there result a backing-up in the whole venous circulation; but at the same time a greater quantity of blood would be forced through the foramen ovale into the left side of the heart, which on account of the greater demands thus made upon it to force on the increased amount of blood would hypertrophy and thus increase the tension in the arterial system. Herein, according to Nieberding, lies the explanation of all the anomalies of the affected ovisac and its contents: while the fœtal œdema and dropsy were caused by the venous backing-up, which through the umbilical veins occasioned also the serous infiltration of the placenta, the increased arterial pressure resulted in an increased filtration by the kidneys, an increased diuresis: this increased amount of urine must have been evacuated from time to time, else there would have been found an enormous distention of the bladder; and this polyuria, according to Nieberding's firm conviction, must have had the most conspicuous share in the dropsical distention of one ovisac, while, on the contrary, the weakened heart of the other twin caused a lower arterial tension, a smaller secretion of urine and a minimum amount of fluid in its containing amnion.

Quite recently Nieberding has had a second instance of hydramnios in a case of single fœtation. A previously healthy secundipara, thirty-two years of age, whose first pregnancy and labor had pursued a normal

[1] Read before the Obstetrical Society of Boston, May 10, 1884.
[2] See vol. cxi., No. 6, page 121, of this Journal.
[3] Allgemeine Wiener Medizinische Zeitung, March 11, 1884.

course, and who was in the sixth month of her second pregnancy, sought advice on account of uterine hæmorrhage. Examination showed that for the time of pregnancy the abdomen was much distended, and that the position of the fundus uteri corresponded to the end of pregnancy. The fœtus was living, but was very small and very freely movable in the great amount of liquor amnii. The hæmorrhage ceased under the influence of rest and opiates. Two weeks later Nieberding found that the circumference of the abdomen had rapidly increased to such an extent that the woman was greatly distressed and had lost much strength. At the same time there was marked œdema of the legs and also of the vulva, indeed each of the labia majora had swollen to the size of a man's two fists: the fœtal heart could no longer be heard. On account of these symptoms Nieberding induced labor on the following day by puncturing the membranes: an enormous quantity of liquor amnii escaped, sufficient to fill once and a half times a large water pitcher.

The fœtus, of female sex, twenty-four hours dead before delivery, was well developed and corresponded to the beginning of the seventh month of pregnancy. On opening the abdomen the bladder showed itself greatly distended with urine and extended as high as the navel: the urethra was completely passable with a small catheter. The heart was very large and hypertrophied in its left half: it was larger than the heart of the pathological twin of the first case: the muscle was healthy and the valves normal. In the lungs, as in the first case, was observed, besides a considerable blood-cell infiltration, a large increase in calibre of the arteries with a well marked thickening of the vessel-walls. The liver was large and infiltrated with red and white corpuscles in the vicinity of the vessels. The kidneys were enlarged, and there was dilatation of the pelves and calices; the glomeruli were filled with blood-cells, and there was blood-cell infiltration of the parenchyma. The placenta was large and very œdematous and studded with a great number of large and small cysts from the size of a hazel-nut to that of a hen's egg, which were seated more or less in the vicinity of the chorionic covering of the placenta. The cord was inserted near the edge. Countless old and new blood clots, some of considerable size, were found as well directly under the chorion as on the uterine surfaces of the cotyledons. Under the microscope was observed, as in the first case, frequent obliteration of the vessels with greatly hypertrophied vessel-walls, which gave the impression of fibroid growths, which were perforated sometimes by one, but commonly by two very small vessel-openings. The cysts hung, as it were, on the vessels which were in intimate connection with the cyst-wall. Sections of these vessels at the seat of their passage into the cysts showed that an artery and a vein lay together: the artery appeared obliterated before its insertion into the cyst-wall, in order to develop itself as a cyst. The vein, much dilated and drawn out in breadth, surrounded the obliterated artery in a half circle, so as to lie smoothly over the cyst-wall. In the cyst-fluid were found countless, more or less altered red and white blood corpuscles. Finally the vasa propria of Jungbluth were seen traversing the chorion, not in great number, but often beautifully injected.

On laying open the ductus arteriosus lengthwise, Nieberding found its lumen filled with crumbling masses which reduced considerably the calibre of the duct. Microscopic examination showed these masses to be proliferations of the muscular coat and intima, as in the first case. He therefore has no hesitation in considering the premature obliteration of the arterial duct as the primary anomaly on which the circulatory disturbances of the fœtus and the other pathological changes depend. He also believes that the great increase in the amount of liquor amnii arose from the extraordinary increase of the secreted urine, without, however, entirely denying that other factors may have had some share in the increase. Nieberding adds that it now remains for him to examine the arterial duct of fœtuses from the same period of pregnancy where hydramnios does not exist, in order to prove whether perhaps the physiological obliteration of the duct at full term can occur in certain cases without being accompanied by so considerable anomalies of the ovum.

It does not seem to the writer, however, that Nieberding's cases and conclusions, interesting as they are, change materially the already accepted views on the pathology of hydramnios. Any pathological change in the fœtus, in the cord or placenta which disturbs the circulation so as to cause venous stasis or increased arterial tension would naturally result in dropsical effusions or increased filtration of urine: the fœtal skin and kidneys, and perhaps the umbilical cord and the chorionic vasa propria, would thus naturally contribute to increase the amount of liquor amnii. Whether the first disturbing cause is found to be in the heart, in the liver, in the kidneys, or in the placental circulation, the final result would doubtless be the same.

CRANIAL BONES OF A FŒTUS REMOVED FROM THE RECTUM.[1]

BY O. W. DOE, M. D.

E. W., colored, widow, fifty-two years of age, entered the City Hospital on April 8th last, complaining only of diarrhœa. Her discharges averaged about seven in number daily and were very thin and often slightly bloody. Under the use of astringents she had but one daily, and after having been kept in bed for two weeks she was allowed to sit up. On doing so, she stated that a very full watery discharge from the rectum took place, and she had no voluntary control of the sphincter. The nurse was directed to give a laudanum injection, but found it impossible to introduce the syringe, as it seemed to impinge against a hard substance just inside the anus. My assistant, Dr. Welch, was called, and found that the obstruction was caused by a collection of small bones, one of which was removed and found to be the left temporal bone of a fœtus. By questioning her closely the following history was obtained, though she seemed somewhat unreliable in respect to dates: —

She had borne three children, the last thirteen years ago: her labors were not difficult. Ten years ago she had a miscarriage when about four months pregnant; but, as the only thing that came away resembled a piece of liver, she was not sure that it was a miscarriage. Since then her catamenia have been regular, until their cessation five years ago. About six months ago something rather hard, about the size of an orange, passed through the rectum. Since then she has had a diarrhœa, the discharges at first being accompanied

[1] Read before the Obstetrical Society of Boston, May 10, 1884.

with pain and containing crumbly matter. The dejections during the last two months have occurred sometimes as often as every fifteen minutes, and frequently have taken place involuntarily during sleep: they were very much less frequent when the patient was in bed. During the past two months there has been considerable abdominal pain and rectal pain, which would be relieved by defecation. The day before entering the hospital she passed two pieces of bone from the rectum; one resembling half a wish-bone; and the other, the upper part of a chicken's leg. When the patient first entered the hospital examination of the abdomen revealed nothing abnormal. There was some emaciation, but not as much as one should expect to arise from a diarrhœa of six months' duration. On the day when she had the large involuntary discharge on sitting up there were noticed hard masses in the left inguinal region, which moved under the fingers, and also a large tumor above the pubes, which proved to be an over-distended bladder. The patient then stated that she had passed urine only at intervals of three days during the past three months, feeling no inclination to pass it oftener. In removing the bones four of the largest ones were found in close juxtaposition about an inch inside of the anus: they were quite freely movable, and, as the sphincter very readily dilated, they were removed with but little difficulty. Three fingers could be easily introduced into the rectum, and but little, if any, laceration of the sphincter resulted. After removal of the bones near the anus another collection was found closely imbedded together, directly underneath the promontory of the sacrum. There was much more difficulty in removing them, especially the first one, and in their removal a considerable amount of a thick cheesy deposit was noticed. The fingers could not recognize any distinct rectum, but high up seemed to enter a large sac containing the bones, the walls of which seemed to be defined by a thick cretaceous deposit.

The bones were removed fifteen days ago, and since then the patient has had no unfavorable symptom. The temperature was 100° F. the day following the operation, and since then normal. She is now sitting up and has on an average two dejections daily, lately well formed. The sphincter shows no signs of any laceration having been produced; but the rectum is still very capacious and not easily defined, the finger apparently entering a large cavity with soft, cheesy-like walls.

PENETRATING GUN-SHOT WOUND OF THE NECK.

BY EDWARD O. OTIS, M. D.

ON the morning of April 9th, between nine and half past, a stout, fleshy man, about forty or forty-five years old, was riding along a quiet village street. Passing by a house he felt something like the sting of a wasp on the right side of his neck. He fell partially over on his side, and attempted to raise his right arm to beckon to some one who was passing. He found his arm powerless, but five minutes after, he said, it regained its power. He realized that he was shot, and so stated to the one who came to his assistance. Aphonia came on immediately. He was taken to his home in partial shock, from which he was said to have rallied in about an hour. There was much difficulty in breathing.

I saw him in consultation the night of the next day, about thirty-six hours after the accident. He was partially dressed, and sitting in a chair. His respiration was about normal; pulse was 120; and temperature 101° F. He had been coughing much since the accident, with the expectoration of considerable mucus, but no blood. There was no pain, except on swallowing, which was difficult.

On examination I found a rather ragged, circular wound, about five sixteenths of an inch in diameter, on the right side of the neck, which was short and thick, two inches, in a vertical line, below the lobe of the ear, the head being pretty well extended. The edges of the wound were dirty, and I thought I detected a few linen fibres, the bullet having gone through his coat and linen collars. It was moderately swollen and tender about the wound. On the opposite side of the neck, four and a quarter inches below the lobe of the ear, and two inches in front of a vertical line, was a cut about half an inch long, which the attending physician had made in extracting the bullet, which, he said, was just beneath the skin. On the linen collar was a very little blood, which was about all the external hæmorrhage there was at the wound of entrance.

I was told that there had been considerable discharge from the wound of entrance, which, on examination, was very much in appearance like the gruel he was being fed with. I also noticed bubbles of air, mixed with the discharge, after coughing. On coloring some milk with tincture lavender, which happened to be near, and asking him to swallow it, I detected the colored fluid oozing from the wound. No fluid at all appeared from the wound of exit, nor was there much of any swelling or tenderness on that side of the neck. On examining the interior of the throat as well as I could at night, and not under the most favorable circumstances, I found considerable congestion and much mucus. The lungs were clear. The first question to decide was the course of the bullet, and what structures had been injured. The direction of the bullet from the positions of the wounds of entrance and exit must have been from above downward, and from behind forward. As it entered it must have penetrated the sterno-cleido-mastoid muscle or grazed its posterior border, passed through the other muscles and tissues between it and the pharynx, penetrated and passed through the pharynx, then made a detour about the great vessels of the left side, finally stopping directly over them and under the skin. This deflection of the bullet was more to be expected at this place than at any other, because the bullet's velocity was nearly spent. A straight line drawn from the point of entrance to that of exit would strike the vessels of the left side.

Let us now see how the accident occurred.

A student left lying in his room a revolver of 32 calibre, known as the "Excelsior" pattern, having five chambers. Two of these chambers, adjacent to each other, were loaded. A fellow-student coming in, and seeing only the unloaded chambers, supposed they were all so, and so amused himself by snapping the revolver. The first time he pointed it towards his foot, and the hammer came down upon an empty chamber. The next time he aimlessly pointed it out of the window, and the hammer struck one of the two cartridges. The bullet went through a window pane only an inch inside of the sash. Directly in front of the window was an elm tree of moderate size, and

perhaps five or six feet distant from the house. The bullet must have just grazed this tree, but it was impossible to discover any trace on the rough, broken bark. A vehicle passes any given point on that street on an average of once in ten minutes, I should think. Just at this time a vehicle did happen to be going by. From the head of the horse to the end of the wagon is quite a distance. Any part of this distance might have been in front of the bullet at the exact time of its discharge, and the chances were many to few against the man's neck being in front. It was in this case. Any part of the neck might have been in the bullet's track. The chances were infinitely few that just the point between the spinal cord behind and the great vessels in front should be the safest place to tap the pharynx from the side. Just that point did happen to confront the bullet.

Let us sum up the immense preponderance of the chances against the bullet's causing the accident it did or, indeed, any accident. First, it struck only one inch beyond the window-sash. Second, a tree was directly in front of the window. Third, a vehicle passes the window only about once in ten minutes. Fourth, the thickness of a man's neck is only a very small part of the line drawn from the head of the horse to the end of the wagon. Fifth, the time the whole of a vehicle is passing a given point is very short; very much shorter is the time a man's neck is passing that point. Sixth, the safe track for a bullet through a man's neck and pharynx is extremely limited. Lastly, there were only two out of the five chambers of the revolver loaded. The hammer had already descended upon one empty chamber, so that there remained two loaded and two empty chambers, making the chances for and against hitting a cartridge just equal.

The bullet went out of the window at a vertical distance of about twelve feet from the ground, and the man's neck was about five or six feet from the ground.

One side of the bullet was turned up while the other side was smooth, and in crevices of the turned-up side were black particles, which, under the microscope, proved to be dark fibres, probably from the coat collar, which was penetrated. The bits of coat and linen collar cut out by the bullet were not accounted for at the time of the accident; later, as we shall see, they appeared.

The treatment advised was of the simplest: surrounding the wound with some light antiseptic material, nourishing the patient partially by the rectum or by a stomach tube, interdicting speaking, a moderate opiate, quiet and good air, careful watching.

I was summoned again two days later to see the patient, and from that time until convalescence, some four weeks later, saw him frequently. A large suppurating cavity formed at the wound of entrance, connecting with the interior of the throat by an upward circuitous passage. Two counter-openings were made at the most dependent portions, one directly below the bullet hole, and another below and in front. A drainage tube was passed from the bullet hole to the counter-opening below. A day or two later this whole tract was cut up. The wound was thoroughly syringed out each day, and an antiseptic dressing applied, — iodoform, carbolic gauze, oakum, etc. At first a carbolic-acid solution was used to irrigate the wound, but as at every washing some of the liquid entered the throat it was thought that the acid increased the irritation there, and its use was abandoned. Alcohol and water and a solution of chloride of zinc were tried, and finally a borax solution was relied upon as being unirritating to the throat. For two or three days considerable sloughing ensued, with much discharge, and a very foul odor. The temperature oscillated between 100.5° F. and 102° F., and the pulse from 116 to 120. After the tenth day the sloughing ceased, and the temperature fell nearly to normal. From the fifth to the twenty-sixth day (twenty-one days) he was fed entirely by the rectum and stomach tube. On the twenty-sixth day the passage from the wound to the throat was apparently closed, and he was allowed to eat the natural way, which he continued to do from that time forward. There was great irritability of the throat and much accumulation of mucus, often purulent, from discharge from the external wound. On the sixteenth day of the accident a large abscess at the point of exit opened, and the lost bits of the linen and coat collars were extracted, having been carried through the neck by the bullet in its wandering; a most fortunate circumstance, that they were not left in the deep portions of the neck to cause grave trouble. This abscess healed in a few days. On the thirty-second day the external wound was healed, with the exception of a small granulating point. The patient was still aphonic, however, and on laryngoscopic examination the pharynx and larynx were found thickened and congested, particularly the ventricular bands. He also complained of lack of power in the right arm, and his head was deflected a little to the right side. Both aphonia and torticollis, more or less permanent, occur in many cases of injury of this kind.

The case is one of interest in several ways: —

First, consider the detour the bullet must have made to avoid the great vessels on the left side of the neck, for it lay beneath the skin immediately over them. The escape of the great vessels in penetrating gun-shot wounds of the neck is noted with wonder in treatises on military surgery. "Few[1] writers on military surgery have failed to remark on the curious manner in which missiles elude the great vessels of the neck, though passing, apparently, in their immediate track. Dr. Williamson, Sixty-Fourth British Regiment, suggests an explanation of this phenomenon. He says: 'It is remarkable that the large arteries and veins in the neck should escape injury so frequently in gun-shot wounds. This may in some measure be accounted for by the structures in this region being so loose and movable that they yield or recede before any projectile.'"

Second, consider the risks to be feared during the first ten days: sloughing and invasion of the great vessels; deep suppuration and descent of pus into the chest; trouble from the bits of foreign substance, the place of lodgment of which was unknown; acute pharyngitis and laryngitis, causing grave disturbance in respiration; pyæmia and erysipelas.

Third, the difficulty of treatment from the location of the wound and the parts involved. Whatever fluid was used to irrigate the external wound entered the throat, so that care had to be used in the selection of the antiseptic. Then there was the difficulty of feeding. A throat already inflamed had to be continually rasped by the passage of a stomach tube.

Hamilton, in his Military Surgery, says that when

[1] Medical and Surgical History of the War of the Rebellion, Part I., Surg. Vol., p. 412.

the œsophagus is wounded, a similar condition to that of this case, the first duty of the surgeon is to pass a stomach tube, and permit it to *remain*. In this case, at least, I think this procedure would have increased the irritation, and added to the discomfort of the patient.

Fourth, as I have already shown the remarkable combination of chances which produced the accident, the unfortunate cause of it would most assuredly re-echo the words of Shakespeare's Cloten, —

"Was there ever man had such luck."

REPORT ON NERVOUS DISEASES.

BY S. G. WEBBER, M. D.

TREATMENT OF PARALYSIS AGITANS.

Albrecht Erlenmeyer[1] reports his experience in regard to the action of drugs in a severe case of paralysis agitans. The tremor was so severe as to interfere with sleep. One or two tablespoonfuls of the following procured sleep, but had no influence upon the tremor: —

R	Chloral hydrat.	7.5
	Morph. muriat.	0.05
	Aq. dist.	150.
	Arrac	50.
M.		

This amount lasted the patient about fourteen days. She took it one and a half years.

An infusion of *valerian*, 20 : 200, to which was added 25.0 *bromide potassium*, in doses of four tablespoonfuls daily, had a marked effect upon the tremor, which was diminished while this was used, but returned when it was omitted.

Curare 0.5, aq. dist. 15.0, acid muriat. gtt. 2, was given subcutaneously, one, two thirds, and finally an entire syringeful being used; 0.011, 0.022, 0.033 of curare respectively. The larger dose caused the tremor to diminish. The improvement continued about three days. The curare was repeated every five days.

The *galvanic current* from eight cells, used for ten minutes, and later fifteen minutes, the anode on forehead, the cathode on the neck, gave very favorable results, but when the treatment was discontinued the tremor returned.

R	Atropia sulph.	0.03
	Ext. secal. cornut.	1.00
	Exts. liquir.	q. s.
M. F. pil. 30.		

One of these taken daily controlled a troublesome sweat, and also diminished the tremor. After nine days this had to be omitted, on account of a slight toxic effect from the atropia. Later, it was taken again with the same result.

Crystallized hyoscyamin had no effect upon the tremor unless taken in such doses as to show the beginning of toxic effects.

Nitrate of silver had no effect.

OSMIC ACID IN NEURALGIA.

A. Eulenburg[2] was led by Neuber's experience in neuralgia with osmic acid, injecting one per cent. aqueous solution, to try the same remedy. He found that the injection of the above strength caused no unpleasant symptoms. He selected twelve cases of neuralgia in different cutaneous nerve districts of the upper and lower extremities, of the head, and body; most of these were fresh and not unusually severe cases. The treatment extended over one to six weeks; the number of injections in individual cases was three to fourteen. The solution used, one per cent., gradually became dark colored; even that could be used without injury. The amount injected was 0.5 of the solution, exceptionally 1.0. After the injection there is a slight temporary reddening or swelling in the immediate neighborhood of the injection. The injection was made *in loco morbi*.

Of twelve cases three were cured (no relapse within two to fourteen weeks); four more or less relieved; five were not benefited. The three cases cured were probably cases of neuritis or perineuritis.

Subsequently he used the drug in seventeen other cases; four cured (two sciatic, one lumbar, one intercostal).

OSMIC ACID IN EPILEPSY.

Wildermuth[3] has used osmic acid, or the potassic osmite, in cases of epilepsy with only slight success. In seven cases he found no benefit. In two cases improvement followed; in one of these the benefit was about the same as that obtained by the use of bromide of potassium. In the other case the gain was much greater; the patient, a woman, seemed to be idiotic, indifferent to her surroundings. The attacks were very severe. In 1876 she had 321, in 1881, 980; bromide of potassium had no effect upon the attacks. 7th January, 1882, she began to take 0.002 osmic acid in watery solution; later took three to five mgr. in pill. The bromide of potassium was reduced to 2.00. The attacks diminished in frequency.

	1881.	1882.
January	131	48
February	121	6
March	125	0
April	121	10
May	11	2
June	9	4
July to December	401	0

The mental condition improved greatly. In 1883 several slight attacks caused the bromide to be increased to 4. and 7. for a short time. Since then the daily dose has been bromide 2.00 and 0.004 of potassic osmite. No further attacks. The above cases were all chronic, intractable cases.

The dose was from two to fifteen mgr. a day in pill, each containing 0.001 of the acid or the potassic salt; he prefers the latter.

PARALDEHYDE.

Carl von Noorden[4] gave between 3.0 and 6.0 grammes, with equal parts of inf. cort. aur., in a half wineglass sugar and water. He saw no evil effects, even from larger doses. Sleep followed in fifteen to forty-five minutes, and in favorable cases continued five to six hours; if accidentally awaked the patients went to sleep again.

Occasionally the taste and smell of the drug remained unpleasantly after waking, but generally no bad effects followed. As contraindication he mentions severe gastric disease and advanced phthisis, with affec-

[1] Cbl. f. Nervenheilkunde, Psych., etc., 1 May, 1883.

[2] Die Osmiumsäurebehandlung der peripheren Neuralgien. Berlin kl. Wochenschr., 18 February, 1884, p. 99.

[3] Notiz über Anwendung der Osmiumsäure gegen Epilepsie. Berlin. kl. Wochenschr., 9 June, 1884, p. 358.

[4] Paraldehyd als Schlafmittel. Cbl. f. kl. Med., 22 March, 1884, p. 185.

tion of throat. Among thirty patients he found only two who were nauseated or had headache from the use of the medicine. Patients with weakened heart bore the drug well, and obtained rest; the arterial tension was not diminished.

E. Kurz [1] reports his experience with paraldehyde in twenty-four cases. The dose was three grammes, sometimes four. The sleeplessness was due to different causes. It failed only in four cases. In no case did it have an exciting effect. The sleep began within half an hour after taking the dose, and lasted five to seven hours, sometimes interrupted. Headache did not follow its use; it was not necessary to increase the dose. It causes a very natural sleep, and is of most value when the sleeplessness is not caused by pain or mechanical disturbances, as coughing, dyspnœa, etc. The chief indication is the same as for chloral.

Langreuter [2] has used paraldehyde and acetal to produce sleep, the former in doses of six grm., the acetal in doses of ten grm. Acetal is less pleasant in its action, and is weaker than paraldehyde. As vehicle he used olive oil with oil of peppermint. Both drugs were used for months without unfavorable effect. The taste and odor are unpleasant. When given at bed-time paraldehyde was successful in causing sleep in ninety per cent.; when given during the day in sixty-one per cent. Sleep occurred in five to thirty minutes after taking the dose.

CEREBRAL CHANGES IN DELIRIUM.

Mr. Handfield Jones [3] gives three cases attended with delirium, one of phthisis, one of typhoid fever, and one choreic, in which the microscope showed the presence of active interstitial inflammation of the cerebral cortical gray substance.

CEREBRAL TUMOR.

C. Wernicke [4] reports the case of a patient who had the general symptoms of cerebral tumor, — extreme headache, choked disk, fainting fits, vomiting, and, later, overpowering sleepiness. The focal symptoms were a slight left hemiparesis, which might, however, have been indirect, bilateral anosmia, and total blindness. From the total blindness, which he considered the most important symptom, Wernicke reasoned that, with retention of the pupillary reaction, there was probably destruction of the fibres of the corona radiata, which run backward from the posterior part of the internal capsule to the occipital lobe, that the conducting power of these fibres was lost on both sides, either by two tumors, one in each occipital lobe, or by one tumor which extended into both lobes, or by pressure caused the interruption of conduction on both sides. At the autopsy a tumor was found in the right temporal lobe; the softening of the cerebral tissue extended so as to destroy the fibres of the corona radiata running to the occipital lobe on the right, but the occipital lobe and those fibres were intact on the left. The left optic tract, however, was compressed or strangulated by the posterior communicating artery, which was tightly stretched across the tract in consequence of the amount of fluid which was in the ventricle. Wernicke explains the reaction of both pupils by the fact that the fibres from the right optic tract, which was healthy, pass to both eyes.

THOMSEN'S DISEASE.

Schönfeld [5] reports a case of this peculiar affection; the patient was a soldier. Schönfeld thought at first that the patient was simulating, but soon found that that was impossible. The soldier was twenty years old; he had never been ill until his fourteenth year, when he was bitten by a dog. He referred his affection to the shock from fright received at that time. Soon after recovery from the injury he began to complain of weakness in his legs, so that after standing long, or after much labor, he fell, but did not lose consciousness. Sometimes when he stepped on solid substances his legs suddenly became stiff, and he was obliged to stand still to avoid falling. The arms had never become stiff. When the patient was caused to stand still in one spot for ten minutes and then told to walk quickly, he could not do so, but slowly and with evident exertion raised one leg, which bent to an angle of about 120° at the knee and hip, and, standing very unsteadily on the other, he set it down again in nearly the same angle. If he then raised the other leg he often fell, generally on the knee, with his arms outstretched, rarely backwards. Consciousness was not disturbed. He lay about five minutes, and then with great difficulty rose. If he did not fall he walked very unsteadily; the hip and knee were bent at an angle of 120°, and remained thus flexed during walking, the limb not being extended. The point of the foot was drawn strongly downwards, so that the great toe almost touched the ground, as in spastic spinal paralysis. The impression was given that all the muscles of the lower extremities were in a state of moderate contraction, and the predominating power of the flexors caused the limb to assume the above position. After ten or twelve steps the gait improved, and soon became natural.

When the patient had been sitting quietly a while there was the same difficulty in walking, and passive motion met with resistance, which was the more marked the more rapid the motion.

When the arms remained some minutes hanging passive by the side there was a difficulty in moving them similar to that found in the legs. The same peculiarity was noticed in the fingers and the eyes; speech was slow and drawling.

ATAXIA OF PERIPHERAL ORIGIN.

J. Dejerine [6] reports two cases which very closely resembled locomotor ataxia, in which he found no change in the spinal cord nor in the nerve roots, but extensive changes in the cutaneous nerves.

The clinical characters in his cases were, as to sensation, rather severe pains, some fugitive, some permanent, the first resembling in their spontaneity and quick subsidence the fulgurant pains of ataxia; the others were more durable, and were seen as lively suffering in the limbs, analogous to sciatica, but they did not follow any determinate tract, appeared also in the trunk, and the whole body except the face.

The objective change of sensibility was pronounced,

[1] Paraldehyd als Schlafmittel. Cbl. f. kl. Med., No. 18, 3 May, 1884.
[2] Berlin. kl. Wochenschr., 16 June, 1884, p. 387.
[3] British Medical Journal, April 12, 1884, p. 717.
[4] Amaurose mit erhaltener Pupillenreaction bei einem Hirntumor. Zeitschrift für kl. Medicin, vi., 1883, p. 361.
[5] Ein Fall von Thomsen' scher Krankheit. Berlin. kl. Wochensch., 2 July, 1883, p. 412.
[6] Étude sur le nervo-tabes périphérique (Ataxie locomotrice par névrites périphériques, avec intégrité absolue des racines postérieures, des ganglions spinaux et de la moelle épinière.) Arch. de Physiol., 1884, p. 231.

there was anæsthesia, analgesia, and retardation of sensation. In his second case the anæsthesia and analgesia were very marked over the whole surface of the body except the face; also the sense of temperature was affected much earlier than is usual in ataxia.

The loss of motor power was real, and greater than is seen in ataxia, though not very marked. The incoordination was extreme, and in his second case was noticed in the upper as well as the lower limbs.

The patients could not with their eyes shut recognize the position of their limbs. The tendon reflexes were absent; there was no paralysis of the sphincters of the iris, and no myosis; in one case muscular atrophy and diminished faradic reaction.

The rapid progress of the disease is of great diagnostic value. In a few months the symptoms resembled those found in a case of confirmed ataxia.

The author considers that the loss of motor power and slight muscular atrophy, with diminution of faradic contractility, are most valuable for diagnosis; when these symptoms are met in ataxia it is only after the disease has continued a long time.

The only lesion found was a parenchymatous neuritis, the cutaneous nerves being most severely affected.

JUVENILE FORM OF MUSCULAR ATROPHY.

W. Erb[1] reports several cases of muscular atrophy commencing early in life, progressing slowly, which have certain peculiarities. His conclusions are: "There is a special form of muscular lesion, consisting in part of hypertrophy with subsequent atrophy (or the atrophy may be established in the first place), in part of hyperplasia of the interstitial connective tissue, and completed by a greater or less formation of fat tissue. It is uncertain whether the changes in the muscular fibres or the connective tissue is the primary. The peripheral nervous system, as well as the spinal cord, offers no recognizable change of structure. This is a very chronic, slowly progressive affection. As result every muscle attacked may appear now atrophied, again hypertrophied, or the subject of pseudo-hypertrophy.

Clinically the disease is characterized by a most marked and ever-recurring localization of the muscular lesion (in the upper part of the body, especially the pectorales, cucullares, latissimi, and other muscles of the scapula, the flexor group on the arm, including the supinator longus, triceps, etc., the fore-arm and hand are not affected; in the lower part of the body the lumbar extensors, a portion of the abdominal muscles, those of the thigh, then the peroneal region and calf in part). There is absence of the fibrillary tremor and of the degenerative reaction, and of all nervous or other disturbance. This disease begins most frequently in the upper part of the body, occasionally in the lower, according to the age of the patient. Most of the cases of this affection have heretofore been considered progressive muscular atrophy, a part pseudo-hypertrophy.

"The disease appears in the form of a progressive muscular atrophy in childhood, or youth (some time before or after puberty), and then forms what I first described as 'juvenile form of progressive muscular atrophy.' Not rarely it occurs in 'family' groups through many generations.

"When it begins in earliest childhood, and without marked lipomatosis, it is the 'hereditary muscular atrophy;' but if it is in this case combined with early and marked lipomatosis (especially of lower limbs) it is the 'pseudo-hypertrophy.'

"But all these forms are identical, and are the same disease, only with different modes of commencing, or course, or degrees of intensity.

"This affection is to be sharply differentiated, clinically as well as anatomically, from the spinal form of progressive muscular atrophy."

VISCERAL NEUROSES.

Dr. T. C. Allbutt[2] commented first upon the large number of cases of dyspepsia not due to organic gastric disease which are of nervous origin. It is quite common to overlook the neurotic character of these symptoms, yet the same is true in regard to other viscera. Many uterine disturbances are due to the general condition of the system rather than any local disease.

Dr. Allbutt mentioned several illustrative cases, and condemned hasty diagnoses, leading to error in treatment.

Gastralgia is not only found in women, but is common also in men, but only in one half the number. It is found at all ages from fourteen to sixty, but is most common between twenty and forty-five. Like migraine it tends to die out in middle life, and, like migraine again, it is attended less and less with vomiting as age increases. Gastralgia comes on earlier in woman than in man. In man it is rare before the twenties; girls often have it in their teens. Migraine is by far the most common associated affection. Eighty per cent. of the author's cases had both. The two affections usually alternate one with the other. Asthma is often associated with gastralgia. Like asthma gastralgia is often nocturnal, and is aroused by improper food or by any food. Hence the persistent confusion of gastralgia with dyspepsia. The cardiac neuroses are found associated with both these vagus neuroses, including true angina. Pseudo-angina is quite frequent with gastralgia; of this several examples are given.

Cervico-brachial and intercostal neuralgias are also found associated with gastralgia. Yawning is another curious symptom which occasionally occurs with gastralgia. There may or may not be vomiting. The vomiting allied to migraine is more common in the morning, is more periodic, and recurs at longer intervals; that allied to gastralgia is more dependent upon ingestion of food, irregular in recurrence, may be daily or almost incessant. The former is encephalic, the latter is reflex.

Several cases of gastralgia with pyrosis, flatulence, and vomiting are given. The author thinks that these cases of vomiting with gastralgia have often been called hysteria.

Gastric neuroses are not specially frequent at the catamenial period. Vomiting blood complicates the case and renders diagnosis less easy.

Anorexia may become so great as to amount to a disgust for food, and the patient may eat so little that emaciation becomes extreme.

In *enteralgia* the pain is in the umbilical region, about two inches to one side, usually the right, or in

[1] Ueber die "juvenile Form" der progressiven Muskelatrophie und ihre Beziehungen zur sogenannten Pseudohypertrophie der Muskeln. Deut. Arch. f. kl. Med., xxxiv., 1884, p. 467.

[2] The Gulstonian Lectures on Neuroses of the Viscera. British Medical Journal, March 15, etc., 1884.

the right flank a little higher than the iliac fossa. He thinks it is not rarely of gouty nature, is aroused rather by the strife of public life than by the teasing of homely worries.

The pain is severe, the bowels are seldom disturbed. He hesitates to place the seat of the pain in the bowels. Sometimes a rough periodicity marks the recurrence of the attacks.

The pain of lead colic is diagnosticated by its being more diffused than the pain of enteralgia, and not limited to *lieux d'élection;* it is not often an excruciating, nor a slashing pain; it is rather of a grinding or fretful character. The parallel constipation and other circumstances serve also to distinguish lead colic.

Hepatalgia is referred to the presence of gall-stones at rest in the gall-bladder in an impressionable or neurotic patient. But the diagnosis of this and the remaining visceral neuralgias he considers to be very difficult.

Allbutt briefly notices the frequent association of neuroses of the vagus with certain kinds of eczema, lichen, and psoriasis, with eczema and lichen chiefly, and the question as to gout being the cause of both the skin eruption and the vagus neurosis. He also refers to a rheumatic taint as a pos-ible cause.

In speaking of treatment, Allbutt mentions that the neurotic has no reserve. When once the natural reserve has been dissipated it is never reaccumulated. This reserve may have been spent in beneficent activities, or it may have been dissipated in fidgets, fretfulness, or shrewishness; in sleeplessness, in anxiousness, or in pain, according to the quality of the person. To trade daily only upon the supplies of the day is to court collapse; we must have more brain, more spinal marrow, more liver, more kidney than we want for the day. We must have stored up force, partly for greater occasions, partly to secure the equable running of our machinery. In the early life of neurotic subjects we must favor the accumulation of nerve force by controlling expenditure and cherishing nutrition.

In an exhausted neurotic the secret of treatment is — by food, fresh air, exercise, and happiness — to lift up the patient from the invalid couch, to teach him so to manage expenditure, and so to promote nutrition as to replace his capital.

The necessity of feeding well, even at the expense of some pain, is dwelt upon at length. Release from toils or worries, change of air and scene are advised. Inland resorts are better than the sea-side for gastralgics. High mountains are not favorable.

The only things to be forbidden are tea, coffee, tobacco, and the stronger meats, such as beef; alcohol is not to be encouraged; so of morphia, though severe cases cannot be treated without the latter.

Arsenic takes the chief place among drugs.

Small blisters to the epigastrium, often repeated, are of service. Quinine, boldly pushed, with belladonna form a valuable combination. So do quinine and bromide of ammonia dissolved in hydrobromic acid. The infusion of *prunus Virginiana* makes an excellent vehicle.

The silver salts are of undoubted use.

Allbutt has found iron of comparatively slight value.

Phosphorus is not of value, but the compounds of hypophosphites often are.

Cod-liver oil should be added as soon as it can be borne.

In enteralgia arsenic is of less value than in gastralgia; quinine and belladonna seem best.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

MAY 10, 1884. The President, DR. C. ELLERY STEDMAN, in the chair.

GASTRO-NEPHRIC FISTULA.

Brief notes of a case of this extremely rare lesion were read by DR. J. R. CHADWICK, who reserved a full report until the case should be made complete by an autopsy.

A married lady, sixty-two years of age, had had attacks of gastric colic, with vomiting, at intervals of one to six weeks for seven years. She had had frequent micturition for a year and a half, and had seen particles of food in her urine. She entered his private hospital on November 12, 1883, when the abdomen was found to be generally tympanitic, except in the upper part of the right lumbar region, where a resisting, tender body was felt protruding from beneath the ribs like an enlarged kidney. Turbid urine was drawn from the bladder, the flow being occasionally interrupted by solid particles and by bubbles of gas. This urine was found by Prof. E. S. Wood to contain a "trace of albumen, much pus, a little blood, muscular fibre, boiled potato, vegetable fibre." The examinations of the urine were made for many consecutive days by Professor Wood with essentially the same results. As the attacks of colic were apparently confined to the stomach, as the tumor was in the region of the right kidney, as the particles of food found in the urine were invariably undigested, and above all as no trace of bile was found in the urine, except for three days following an attack of vomiting, the diagnosis of gastro-nephric fistula was thought warrantable. This was accepted by Drs. G. H. Lyman and C. E. Stedman, who saw the patient in consultation. Various diets were tried without effect, so that after a month the patient was sent home to Rhode Island unrelieved, as her condition did not warrant a resort to the very hazardous chances of an operation. Dr. Chadwick had found in medical literature the reports of but two authentic cases of this lesion; one in a French thesis of 1856, where a gastro-nephric fistula had been discovered post mortem, but no history of its course recorded; the other in an Italian journal published in 1866, where no confirmation of the diagnosis by autopsy had been reached at the time of publication. The probable origin of these lesions is in purulent nephritis.

DR. LYMAN said the case was one of the most interesting that he had ever seen: it was wonderful that the woman had maintained her nutrition so well. He inquired if the woman had been fed by rectum.

DR. CHADWICK replied that she had not. It was found that liquid food given by stomach escaped without much change through the bladder: hence it was thought best to give solid food which remained longer in the stomach. At one time there was much gas discharged by the bladder.

DR. ABBOT asked if the urine had been examined at times of long abstinence from food, and compared with the urine passed soon after taking food, with a

view to determining whether the fistula was gastro- or intestino-nephric. The reply was that no such experiment had been tried.

CRANIAL BONES OF A FŒTUS REMOVED FROM THE RECTUM.

DR. DOE reported the case[1] and showed the specimen.

DR. LYMAN asked what amount of inflammatory action was going on. The reply was that there was no febrile movement at the time.

DR. J. W. ELLIOT reported

A CASE OF DOUBLE UTERUS AND VAGINA.

The patient was thirty-four years of age, had been married sixteen years, and complained of sterility, constant pain in the lower part of the abdomen, dysmenorrhœa, mental depression, and nervous spasms. On April second she entered Dr. Elliot's private hospital and was examined under ether. There were two separate vaginæ, both slightly smaller than usual: the septum, about one eighth of an inch thick, began just behind the hymen. At the end of each vagina was a cervix slightly smaller than normal. A probe could be passed into each cervix. The bimanual examination showed distinctly that there were two independent uteri: both were enlarged; one anteflexed, the other in about the normal position. The patient was afterwards seen during menstruation, and the menstrual flow came from both uteri.

DR. DAVENPORT asked if examination had been made by rectum.

DR. ELLIOT replied that rectal examination gave the same result as by vagina: the finger passed behind both cervices and felt the double fundus above; without ether, however, nothing could be felt but the double cervix.

DR. CHADWICK expressed skepticism as to whether a double uterus could attain such a size as the reader had stated, since the double uterus was usually an arrested development and therefore smaller than the normally developed uterus.

DR. ELLIOT said that the size of the double uterus was large in this case: he thought the bodies were dilated by fluid, there being stenosis at the ora interna. The menstrual flow is profuse.

Dr. Elliot also reported

A CASE OF RETROVERSION OF THE GRAVID UTERUS.

He was called to Mrs. E. in Brookline on March 9: he found the family much alarmed, and the patient in a critical condition. She said that she was twenty-three years old, that she had been married three months, that the catamenia had not appeared for the last two months. Three weeks before he was called, the patient began to vomit: for the first week she could retain a very little simple food; for the last ten days she had retained almost absolutely nothing. She had been under the care of a homœopathic physician who had not succeeded in relieving her. A female homœopathic gynæcologist had relieved her for one day by the use of a soft rubber ball pessary which had soon caused flowing and was therefore removed.

When Dr. Elliot saw her she was very thin and worn, and was tossing about the bed in a state of extreme nervous and physical exhaustion. She was retching and spitting incessantly, even when not attempting to take food. On examination he found the uterus somewhat enlarged, very low in the pelvis, and retroverted. She was flowing. There was evidently retroversion of a pregnant uterus, and a beginning miscarriage caused by the pressure of the soft rubber ball pessary. He pushed the uterus up out of the pelvis and directed her to lie in the semi-prone position: this relieved her for a time; but in the afternoon of the same day she sent for him again, and he found her vomiting as badly as before. He found that the uterus had partially retroverted again but the flowing had stopped. He put the patient in the knee-chest position and replaced the uterus without difficulty. He then placed a pessary which held it in position: the vomiting ceased entirely almost immediately and has never returned. The patient was able to take food every hour, and on the second day took two quarts of milk. She regained her strength very rapidly and is now in prime condition. He removed the pessary in about two months, when the uterus had grown so large that it could not retrovert. Although the vomiting was entirely relieved by the replacing the uterus, the spitting continued to trouble her more or less for several months.

DR. FIFIELD asked whether, when the patient was placed in the genu-pectoral position and the perinæum was retracted with a Sims' speculum, the uterus replaced itself.

DR. ELLIOT said that it was necessary to draw down the cervix with a tenaculum and then push the fundus into place.

DR. CHADWICK asked the reporter if he ever saw the uterus replace itself with the patient in the genu-pectoral position.

DR. ELLIOT said no, unless the blade of the speculum is long enough to push the fundus forward.

DR. CHADWICK thought the knee-chest position a poor one for replacing a uterus. If the cervix is hooked down, the uterus can be replaced; but he disbelieved in hooking down the cervix. He had raised the fundus by inflating the rectum; but he now places the patient in an erect posture, when the uterus sinks, and, when the vagina is lax, can be easily replaced. He thought the erect position far better than the genu-pectoral.

DR. ELLIOT saw no objection to the use of the tenaculum and believed the knee-chest position a good one, when it was desirable to use as little manipulation as possible.

CONCERNING THE ÆTIOLOGY AND PATHOLOGY OF HYDRAMNIOS.

DR. C. M. GREEN read a short paper[2] on this subject.

DR. BENJ. CUSHING, present by invitation, alluded to the methods now advocated for removing the placenta after abortion. He had formerly given ether and introduced his hand or had employed placental forceps; but for the past twenty years he had employed with good results an instrument of his own device which was essentially a small scoop or spoon with a long handle. He could use this scoop whenever the os was sufficiently dilated to allow the intro-

[1] See page 268 of this number of the JOURNAL.

[2] See page 267 of this number of the JOURNAL.

duction of his finger, and he believed the instrument was far better than placental forceps.

DR. CHADWICK had used the scoop for the last four or five years with great satisfaction: he thought it contained all the value of Thomas's serrated scoop.

DR. FIFIELD also testified to the value of the instrument. He seldom gave ether. He disbelieved in too early and too persistent search for the placenta and thought a little waiting and a little ergot would often bring away the placenta without trouble. It was his practice, in abortions from the second to the third month, to tampon the vagina and wait for twelve hours; then to place the patient on a bed-pan and give a vaginal douche: he usually found the placenta in the bed-pan. In abortions later on it was his custom to wait until the os was sufficiently dilated to admit the scoop or the finger.

CHICAGO MEDICAL SOCIETY.

LISTON H. MONTGOMERY, M. D., SECRETARY.

STATED meeting, September 1, 1884. DR. A. K. STEELE in the chair.

DR. J. A. ROBISON read some

REMARKS ON ANEURISMS,

of which a few of the principal points are herewith appended, omitting reference to the ætiology, pathology, or diagnosis: —

The general principles governing the treatment have been to prohibit the patient from taking much exercise, to secure as nearly as possible absolute rest, and to restrict the diet. When the heart was tumultuous cardiac sedatives were exhibited and such symptoms as dyspnœa, pain, etc., have been met with appropriate palliatives. The first attempt at specific treatment for internal aneurisms was employed many years since by Albertini and Valsalva, and has been known as Valsalva's method. It consisted in weakening the patient by repeated blood lettings, and by gradually diminishing his meat and drink till only half a pound of pudding was taken morning and evening, with only a measured quantity of water, so that at last the patient was so exhausted he could not lift his hand from the bed in which he was ordered to lie from the commencement of the treatment. When this stage was reached the amount of nutriment was increased until the patient's strength was restored, but this plan of treatment did not yield the beneficial results which were anticipated. In our day it would be regarded as barbarous were we to try and enforce this treatment to the extreme which Valsalva reached. A modification of this method, consisting of enforcing absolute rest, and diminishing the food and drink, so as to diminish the quantity but not the physiological quality of the blood, has benefited a number of cases, if not entirely cured them. While some physicians have refused to employ the depleting treatment, they have resorted to measures fully as severe. Dr. Murchison and Mr. Moore, of England, have recommended, and in one case tried, the introduction of fine wire into the aneurismal sac, on the theory that the large amount of surface exposed to the circulating fluid would produce coagulation of the fibrine. In the case referred to they introduced twenty-six yards of fine iron wire into the aneurismal sac, and it is needless to say that the treatment was unsuccessful, although they contend that the result obtained demonstrated the principle was sound, and that further experiments were justifiable. A much less dangerous and probably more efficient mode of treatment is by electrolysis. Pravaz was the first to use electrolysis for reducing external aneurisms, and Cinicelli and others have applied it to internal aneurisms, but with very indifferent results; in eight cases of thoracic aneurisms only one was benefited, only one case of abdominal aneurism was cured, and this patient died from rupture of the sac on account of premature exertion. The results obtained from the use of the galvano-puncture have not justified us in hoping for much from that method. Professor Langenbeck has published accounts of two cases which he claimed to cure by hypodermic injections of one half to three grains of Bonjean's watery extract of ergot every three days; Balfour says he has tried this method frequently, but without any success, although he was positive that his ergot was active. Pressure as a mode of treatment is wholly inapplicable to thoracic aneurisms, and rarely to abdominal. Dr. Murray records a case of the latter, in which pressure on the aorta for five hours, the patient being under chloroform, was successful.

Treatment of internal aneurisms by the administration of the iodide of potassium is conceded by Flint and Bramwell, and Balfour insists that the iodide of potassium is the only drug which offers any hope of cure, and in every case it will relieve the distressing symptoms. This author says: "Of all the various modes of treating internal aneurism, there is not one hitherto mentioned which is not attended with considerable risk or danger except Mr. Tufnell's plan of perfect rest, while the advantages to be derived from some of them are, to say the least, very problematical."

The reader claimed that the treatment by the iodide of potassium is perfectly safe and free from all risk, and it is equally certain to afford relief, although relief is not always to be gained instantaneously. It relieves the pain and other symptoms of aneurisms more rapidly and more effectually than any other treatment, apart even from the powerful agency of the recumbent posture. The relief to the pain and other symptoms is so great and so speedily obtained, usually from the action of the drug alone, that it is often difficult to get the patient to submit to any restrictions. The author has employed this method of treatment during the last eight years in a very considerable number of cases with unvarying success so far as the relief to symptoms is concerned, and with such favorable results as to retarding the further progress of the case, and even in some cases promoting an apparent cure, as certainly to stamp this treatment as one of the most efficient hitherto propounded for the relief of this intractable complaint. Balfour relates the history of twelve cases treated by this method with the following results. The symptoms, such as pain, dyspnœa, etc., were relieved in every case: The physical signs of aneurism were diminished in seven cases, pulsation of the tumor ceased in two cases, diminished in four, and was not apparent from the commencement in six. The aneurismal tumor disappeared in three cases and diminished in five. The bruit disappeared in two cases, and diminished in two cases, but never existed in two cases. Five of the patients were so relieved that they could work, four were discharged at their request, feeling well; one patient absconded, and the result of treatment is not known.

Five cases were termed cured, and seven were relieved; one of the twelve cases referred to was an aneurism of the innominate artery, which was cured, and Balfour claims to have cured several cases of aneurism of this artery. One of the four cases discharged at their own request was under treatment three different times, being discharged twice at his own request, but died suddenly while under the third course of treatment, the autopsy revealing an aneurism of the aorta which had ruptured into the lower lobe of the right lung. One of the twelve cases was diagnosticated as a weeping aneurism, implicating the origin of the left carotid, and communicating by a small opening with the left bronchus, the patient on admission expectorating arterial blood, but this soon ceased and the patient was discharged cured.

While the writer did not believe he was justified in being as enthusiastic in the praise of the iodide of potassium treatment as Balfour, he believed he was justified in relating the following case, and giving the iodide of potassium the credit of prolonging the patient's life and making his days comparatively comfortable: —

John H. C., aged forty, a blacksmith, was first seen March, 1883. Had had attacks of inflammatory rheumatism several years previously. In February, 1883, he was attacked with severe pains in the chest in the præcordial region, and was treated by his physician for rheumatism for some weeks, when Dr. J. P. Ross saw him, and diagnosticated aneurism of the aorta. At this time the patient had a good deal of dyspnœa, some hoarseness of the voice, and quite a little difficulty in swallowing solid food. When fatigued the pains in his chest were excruciating. No tumor was perceptible, although there was pulsation in the upper sternal region, and dullness upon percussion over the area of pulsation. Two months afterward there was a swelling in the upper sternal region at the junction of the left first and second ribs, about the size of a silver dollar. A very slight bruit was heard. The voice was very husky, and the difficulty of deglutition had increased until now the patient could take no solid food whatever. He was emaciated and was losing strength very rapidly. He was ordered to lie in bed continuously, and was given fifteen grains of the iodide of potassium three times daily, gradually increasing the dose until signs of iodism appeared. It was truly remarkable how soon after this plan of treatment was inaugurated the patient expressed himself as free from pain, and the distressing symptoms from which he had suffered. He persevered until May, when he said he was so well and weary of the bed he would like to sit up. Leave was granted, and a few weeks after the writer was surprised to see him walk into his office. He complained of nothing, but he was cautioned against such rash experiments, and was told to return home and take better care of himself. His condition at this date was as follows: The continued pulsation of the tumor against the chest wall had produced absorption of a large portion of the manubrium, and an inch of the inner portion of the left first and second ribs. Consequently we could feel the pulsations of the tumor through the chest wall at a point where only soft tissues intervened. No bruit was discernible. On laryngoscopic examination there was found complete paralysis of the left vocal chord. His voice was anserinous. During all these months he had been taking the iodide of potassium without any disturbing effects, until now, when he complained of symptoms of iodism. He was permitted to discontinue its use. From the date of this office visit the patient grew rapidly worse. Dyspnœa and dysphagia increased, and finally he died of asthenia July 19, 1884.

Autopsy. On opening the thorax a large aneurismal tumor was seen behind the sternum, about five inches in diameter. Friable adhesions of the sac to the sternum were broken up when the sternum was removed. Absorption of a large portion of the sternum and the left first and second ribs had taken place. Heart and pericardium were normal; adhesions between the aneurismal sac and the left lung; the left lung was pressed upward and backward into the left pleural cavity, and collapsed. On opening the heart the aortic valves were roughened; the arch of the aorta was dilated, and at the front of the arch, between the origin of the innominate and the left carotid arteries, was an opening, oval in form, one inch by one and a half, into the sac of the aneurism. Through this opening the wall of the aorta was continuous with the wall of the aneurism.

DR. E. T. INGALS was much interested in the case just reported, for he had also seen the patient. Last April he had been consulted and found all the symptoms present that have been described. The speaker cited briefly a case of aneurism of the abdominal aorta which he treated five or six years ago by iodide of potassium two thirds of the time for two years, and as a result there was obtained loss of the bruit, cessation of pain, and the size of the tumor was reduced one half. He saw the case recently, and there has been no return of the difficulty. Another case quite similar, he treated three or four years ago in the same manner and the pain was relieved. A case of thoracic aneurism treated three years, by giving twenty grains of the iodide three times daily, did not result so favorably, for the patient died suddenly. He was at present treating a case of abdominal aneurism in which all the symptoms have improved, and the enlargement is reduced one half. He desired to ask of any of the members their views as to how long the remedy can be taken continuously, before it has an injurious effect on the mucous membrane of the stomach or kidneys? About a year ago he began treating a case of stricture of the trachea, by giving four hundred and eighty grains of iodide of potassium, freely diluted, for some time daily until symptoms of iodism appeared, and he found the stricture was being absorbed, when sixty grains of the remedy was ordered to be taken three times a day. This was continued for six months; then five grains, three times daily. This amount the patient has been taking almost continuously during the past few months.

DR. JOHN BARTLETT cited a case of general chronic bronchitis and asthma in a man seventy years of age. Eight years ago he began treating him by the administration of iodide of potassium in eight-grain doses, three times daily, and not a single day has he omitted to take the medicine down to this time; as a result the patient has steadily gained in flesh, grown fatter and stronger, his appetite is not impaired, and his kidneys perform their normal function.

DR. ROBISON concluded by stating that Balfour does not administer as large doses now, at the beginning of the treatment of a case of any form of aneurism, as he used to. That fifteen or twenty grains three or four times a day is about the quantity he gives, then

when the pulse is quickened or the heart becomes irritable the remedy is stopped temporarily.

DR. H. M. SCUDDER read a paper on

THE TREATMENT OF ASIATIC CHOLERA IN SOUTHERN INDIA,

whose contents possess the more interest from the fact that the writer was for nine years a resident in India and passed through four epidemics of cholera there, and himself had the disease. Dr. Scudder was the only European physician in a town of nearly 50,000 inhabitants, and was at the head of a district hospital supported by the English government, and treated a large number of cases. One of the severest of these epidemics occurred during the famine of 1877 and 1878. He was assigned to take the medical charge of a large inclosed famine relief camp containing over five thousand persons, where there were often as many as three hundred at a time in the hospital sheds with a death roll during the height of the epidemic of over fifty per diem. In this camp the writer had the opportunity of trying on an extensive scale different remedies and the various modes of treatment, and comparing the results. The description of the treatment is therefore confined to the methods employed of late years in Southern India. Before proceeding to this, the writer stated his views in regard to the contagiousness of the disease. In India, he said, it is generally considered that cholera is an infectious disease and also somewhat contagious, though not highly contagious or readily communicable by personal association with the sick, as is the case with small-pox and measles. The noxious power of the cholera germ or virus (whether it is Dr. Koch's microbe or something else) seems to be more powerfully exerted some time after it has escaped from the body of the patient than when it is freshly passed. His own careful observation in the epidemics that he had passed through, and experience the world over, seems to establish this fact, yet the contagiousness of the disease still seems to be a vexed question, and remains yet to be decided. The writer further stated that from his experience and the careful study of the history of Indian epidemics he is led to believe that the attendants and those who come into frequent and close contact with cholera patients are somewhat more apt to contract the disease than those who do not.

For purposes of treatment, the writer divided the course of this disease into the following stages: (1) a period of prodromes or prodromic stage; (2) a first stage or stage of diarrhœa or cholerine; (3) a second stage or stage of invasion; (4) a third stage or stage of collapse (algid state); (5) a fourth stage or stage of reaction; this last stage may be succeeded by a typhoid condition, or cholera typhoid state, or the patient may pass directly into a state of convalescence.

In the prodromic stage, manifested by lassitude, mental depression, chilliness, nausea, and abdominal discomfort, give ten or fifteen drop doses of spirits of camphor in dessert spoonfuls of hot brandy every hour or two, but be careful not to allow any considerable quantity of stimulants to be taken When epidemic cholera is prevalent many are affected by the symptoms just described. If the remedies indicated were promptly taken the writer was confident that many attacks of cholera would be warded off. It is true that fear often produces these very symptoms, but the spirits of camphor in spoonfuls of warm brandy tends to soothe the fears and dissipate the symptoms, and yet it does not usually disorder the digestion.

As soon as diarrhœa supervenes begin the administration of some preparation of opium, together with aromatic camphor; a little chloroform is then urgently called for. Two parts of chlorodyne to one of spirits of camphor is a very good combination, thirty drops for a dose, to be repeated as required. Another very serviceable preparation consists of equal parts of spirits of chloroform, spirits of camphor, laudanum, aromatic tincture of rhubarb, and tincture of ginger. Teaspoonful doses every hour or two, according to the urgency of the case, or until four or five doses have been taken, alternated with either of these combinations: an aromatic sulphuric-acid mixture or the following popular formula: —

℞ Acid. sulphuric aromat. . . . . ʒi.
Tinct. opii deodorat. . . . . ʒvi. vel ʒi. M.
Sig. Twenty or thirty drops in water every hour or two.

The writer suggested the importance of administering these remedies hot unless they create nausea. The hot water (two or three tablespoonfuls) in which the doses are given may be sweetened if desired. The patient should be required to lie down, and kept perfectly quiet, covered with heated blankets, and dry heat applied to the surface of the body, especially to the extremities, by means of hot bottles, heated flatirons, etc.

In India the administration of calomel to any extent has been lately discouraged. One or two doses may be given if thought best, but not more. As soon as frequent vomiting commences, or the stage of invasion becomes established, the combinations containing opium which have been mentioned had better be discontinued, and either of the following mixtures given instead, in teaspoonful doses to check vomiting, while at the same time some morphine, or morphine combined with chloral, should be administered by hypodermic injection, as the severity of the case may demand: —

℞ Chloroform,
Tinct. capsici,
Tinct. cannab. ind., ... āā ♏xxx.
Acid hydrocyanic (dil.) . . . . . ♏xx.
Ether . . . . . ♏viii.
Spts. menthæ pip. . . . . ♏ xv.
Syrup sassafras. comp. . . . . ad ʒii. M.
Sig. A small teaspoonful every half hour or hour.

or

℞ Spts. ammoniæ aromatici,
Spts. chloroformi,
Tinct. capsicum,
Comp. tinct. cardamon, ... āā ʒi.
Tinct. ginger,
Sig. Give in the small doses as above.

A mixture of aromatic powder, gum arabic, and acetate of lead, may also be given alternately with either of these, if desired. In any case mustard plasters should be applied over the stomach and abdomen, but not left on too long; and, if required, enemas of eight or ten grains of acetate of lead may be given after each evacuation. The writer further stated that it was important to bear in mind that some preparation of opium or morphine, combined with chloral, is the chief remedy for cholera, and the surest agent we can use to arrest the progress of the disease. When called, therefore, to a case already in the stage of invasion, morphine, or morphine and chloral, should be administered hypodermatically, without delay, in order to get these sovereign remedies into the system as soon as possible; for if we can arrest the disease before the

patient become collapsed his chances of recovery will be greatly increased.

Caution must be exercised, however, when this form of treatment is pursued, for narcotism is easily induced by repeated hypodermic injections, whereas very large doses of opiates can be given in this disease by mouth and rectum with comparative impunity. The strength of the solution usually employed for injection is: morphine, gr. iiiss. vel gr. iv., with chloral hydrate, ʒiiss. vel ʒiii., to the ounce of water. Inject twenty or thirty minims. The hypodermic use of morphine and chloral is, of course, contra-indicated when the stage of collapse has become developed.

During this stage it is most essential that the patient should be kept perfectly quiet, and in the horizontal position. No violent rubbings should be allowed, but the writer had found it beneficial to gently rub the limbs and extremities with hot oil.

To allay thirst let the patient suck ice frequently. Carbonic-acid water or simple acidulated effervescing drinks may also be given by the tablespoonful. It is unsafe to allow the patient to drink any fluid whatsoever in large quantities. In this stage, especially when the acts of vomiting and purging have become less frequent, and the algid state well developed, very small quantities of stimulants are useful, but they should be given with great caution lest vomiting be provoked. Stimulant enemas may also be given, but where the stomach has an inverted action it is often better to inject small quantities hypodermatically. Experience teaches that anything like the free use of stimulants in cholera is uncalled for and exceedingly harmful. They may, however, be given in small quantities in the prodromic stage, and in the stage of collapse. The reader has sometimes used small doses both of atropine and strychnia, administered by hypodermic injection, apparently effectually, to bring about reaction. Amyl nitrite by inhalation may be given a trial, but it seems to exercise very little permanent or beneficial effect. Intra-venous administration of milk and salines may be resorted to, but the reaction they induce is not generally of a permanent character, so that many of those who have given this method a fair trial have abandoned it.

Of late years, in Southern India, careful experiments have been carried out in reference to the value of impregnating the atmosphere of the sick-room with sulphurous acid by the burning of sulphur. The result is that this procedure has been introduced as part of the treatment of cholera. The writer has on several occasions tried this plan by subjecting the inmates of two different cholera sheds to exactly the same conditions and treatment in every respect with the exception that in one the atmosphere of the shed was impregnated with sulphurous acid, and that in the other this precaution was omitted. He found that the proportion of recoveries was considerably greater in the shed where sulphur was used. He therefore considered this an important adjuvant as part of the treatment. The atmosphere should not be so highly impregnated as to cause the patient or attendants to cough violently. Sulphurous acid thus applied is not only a useful remedy, but it is also believed to decrease the possibility of the disease being propagated or contracted by the attendants.

During the stage of reaction great care should be exercised; vomiting often continues, and the normal absorbing power of the stomach and intestines is but slowly restored. Liquid nourishment by the spoonful should be most cautiously given, well salted broth and milk given hot as possible and not too frequently are the only forms of food admissible until the enfeebled stomach shows signs of recovering its tone. Peptonized beef tea and milk are frequently well borne, if carefully prepared so as not to nauseate the patient. If vomiting persists the following emulsion may be given if deemed best: —

℞ Acid. carbolic . . . . . gr. vii.
Bismuth sub nitrat. . . . . ʒii.
Mucilag. acaciæ, } . . . . . āā ʒi. M.
Aquæ menthæ viridis }
Sig. A teaspoonful every hour or two.

But in this stage it is good treatment to let nature do the work of restoration and give as little medicine as possible. We must bear in mind, however, that the kidneys must be assisted to resume their functions, and for this purpose mild diuretics should be carefully administered. If fever supervenes it is apt to be of a typhoid character; a combination of iodine and carbolic acid then exerts a beneficial effect.

(To be concluded.)

CHEESE POISONING.

The secretary of the Michigan State Board of Health, Dr. Henry B. Baker, reported at the last quarterly meeting of the Board, held at Lansing on the 8th of July, among other matters of interest, on the subject of cheese poisoning. The secretary presented a report on four outbreaks during the months of May and June at Middleville, Jerome, Jonesville, and Big Rapids. All of the persons who ate of the cheese in question, about 164 in all, were taken sick with the same symptoms, namely, pain and a burning sensation in the stomach, intense vomiting and purging, feebleness of the pulse, coldness of the extremities, and a tendency to collapse. All finally recovered. The cheeses were ordinarily good-looking specimens, but, when they were cut or broken, a liquid oozed into the pores. In each case the cheese was made at a factory in Fruitridge, Lenawee County.

Dr. V. C. Vaughan also read a report on the subject. At the request of the secretary he had visited the factory in Fruitridge, and had analyzed specimens of the cheese. Everything about the factory had appeared to be scrupulously clean, and nothing in the vats, the cans, or the surroundings offered an explanation of the cause of the poisoning. Analysis showed no arsenic, copper, lead, iron, or other mineral poison. When the cheese was cut or broken, a whitish liquid oozed into the pores, and in this liquid microscopic organisms were detected. The liquid was very strongly acid. For more than a hundred years, the report continued, the attention of the scientific world had been drawn to the subject of cheese poisoning by repeated outbreaks of this sort, both in this country and in Europe. Much had been written on the subject, and many investigations had been carried on, especially in Germany. By various observers the poisoning had been ascribed to diseased milk, decomposition, and the development of certain fatty acids, etc.; but we did not yet know what made the cheese poisonous. In regard to the cases under consideration the maker of the cheese had stated that the cheese which had produced the bad results had all been made between the 26th of April and the 26th of May, in the same manner and

with the same care as other lots which had given no cause for complaint. Good cheese was only very slightly acid, and was slow in reddening blue litmus paper, but the poisonous cheese was intensely acid, a freshly cut surface of it reddening litmus paper instantaneously. This test for poisonous cheese appeared to be practical, as the litmus paper could be applied by any grocer to a freshly cut surface of the cheese. If it was instantly turned red by the liquid which oozed into the pores the cheese was to be suspected of being poisonous.

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COLLEGE ATHLETICS.

TWO papers were read at the meeting of the Social Science Association in Saratoga last week before the Section on Health, one by Professor Sargent, of Harvard, the other by Professor Hitchcock, of Amherst. The former gentleman alluded to the obvious and manifold advantages of properly directed physical culture to young men, particularly to students, but laid especial stress on the danger of the encroachments of professionalism with all its degrading influences on the field of natural healthful sports. The large amount of space devoted by the public press to "sporting intelligence" was strongly deprecated. In all sports the growth of the professional element marks the decline of the sport itself. When a man learns that his exceptional physical powers in any line have a money value, it is a temptation to use them in that line, and with him sport becomes a business. Then he loses his respect as a man very rapidly, and finds that he is like a horse or a dog, valuable only for the prizes he can win for his master, and he rapidly begins to look for success alone, no matter by what jockeying tricks or frauds it must be secured. The mercenary spirit is not confined to the athletes, but property owners, hotel proprietors, transportation companies, etc., all take an interest in athletics which is purely and wholly mercenary. Betting has always been and always will be the bane of competitive contests, not alone because it is wrong in itself, but also because of its demoralizing influence on all concerned. In order to controvert the law of chances and make betting a safe and paying business, "tips," "points," and "understandings" must be obtained, so that it becomes simply a disguised but sure robbery. Yet many of our young men are foolish enough to stake their week's earnings on a contest whose issue is known to the sharps that "bet" with them. Professor Sargent strongly favored athletic exercises in colleges, but wanted the evils eliminated. The first remedy suggested was that prominent educators and college officials should come to some agreement as to the part athletic sports are to play in a system of education. College faculties should announce their positions, and define them accurately, about the whole matter of athletic sports and training during the college course. Great good would come from the reform in the conduct of college sports recommended by the intercollegiate athletic conference which met last February. The question is no longer of simple physical significance, but has become of great moral and social importance, and the community at large must strengthen college faculties in devising common means for meeting a common danger.

Professor Hitchcock in his paper took even stronger ground than Dr. Sargent in his claim as to the obligation of the college to furnish physical training to its students. It is not enough, Professor Hitchcock says, for the Faculty of the college to enlarge upon the value of long walks, inspiring pure air, and an occasional bath, as the condition of the weather, the inducements of the natural surroundings, or the inclination or daily duties of the student may allow. In fine, then, the advanced idea of a college should recognize, as a part of its work, a supervisory care over the conditions of health in the student, and an education how to use the physical powers in harmony with the intellectual, by instruction and enforced attendance upon healthful, recreative duties, so far as to be able to maintain the highest power of the whole man, and keep them thoroughly active in the summer time of existence. In conclusion, he said the value of physical education is shown in the decrease of illness during college life, freshmen losing twenty-nine per cent. from illness; sophomores, twenty-eight; juniors, twenty-three; seniors, nineteen; or a decrease of disability of about ten per cent. The number of Amherst students from whom these data were obtained is 2106, and the average 21.1 years. The period of their observation was four years, and their average per cent. of good health was seventy-five per cent. of the whole number.

RICKETS IN ANIMALS.

AN opportunity has fallen to Mr. J. B. Sutton to make the post-mortem examinations of wild animals dying in the Zoölogical Gardens, in Regent's Park, and the result has been an article on Rickets in Wild Animals. (*Journ. Anat. and Phys.*, July, 1884.)

Rickets appear to be a very common cause of death among wild animals in the captive state, equaling in the Zoölogical Garden fifty per cent. of all kept in confinement, and Mr. Sutton has carefully recorded the clinical and pathological aspects of the disease. He describes the disease in three forms: (1) rickets of infancy, (2) of puberty, and (3) of maturity.

In the (1) rickets of infancy the clinical aspects of the disease have been principally followed out in

monkeys. The animal becomes less lively than usual; he grovels about on the floor, and if pushed shrieks with pain; this is soon followed by impairment of the power of locomotion, finally ending in paraplegia, accompanied by priapism, incontinence of urine and fæces. The disease develops with great rapidity, and a rickety monkey that develops a cough soon succumbs.

The observations on (2) rickets of puberty ("late rickets" in the human subject) were conducted chiefly on baboons, bears, tigers, and lions. The symptoms are very few, but very definite. The animal shows signs of paralysis and defective dentition; gradually it becomes completely paraplegic, and is killed on this account.

The (3) rickets of maturity are rarest of all, the characteristic features of the disease being deformity, paraplegia, loss of teeth, and fractures of the bones of the limbs.

The causes of rickets are considered to be an unsuitable diet, frequent pregnancies, want of proper exercise, and what is termed "in-and-in breeding."

Mr. Sutton draws up the following table to indicate the distribution of the various pathological lesions according to age: —

	Infancy.	Puberty.	Maturity.
Skull.	Soft and somewhat thickened at the vault. Exterior may present a worm-eaten appearance. The base often presents tabetic patches.	Vault thickened.	Softened generally, and eroded.
Vertebræ.	Spongy and soft, encroach on the neural canal, causing paraplegia.	Present bulging at the disks and epiphyseal plates. Paraplegia.	Soft, spongy, and vascular. Paraplegia.
Thorax.	Deformed and beaded. Infractions of ribs.	Beaded. Infractions of ribs.	Nil.
Long Bones.	Soft, curved, with large epiphyses. Spongioid tissue reaches its maximum.	Fibrous tissue in a thin layer at the epiphyseal line Spongioid tissue at a minimum.	May be often soft and curved, or the compact tissue exceedingly thin and brittle.
Teeth	Temporary set. Normal.	Permanent set, late in appearing.	Fall out prematurely, due to absorption of sockets.

This is an instance of careful pathological study in animals, which is not without its direct application to the human species. We have often expressed our belief that such study of comparative pathology was one of the ways by which our knowledge of human ills might be best increased. The existence of a chance specimen of rickets in a domestic animal was made, not long ago, in the pages of the JOURNAL, the basis of an argument against the identity of rickets and syphilis. One result of Mr. Sutton's autopsies will be to greatly strengthen such an argument. Such study bids fair also to throw even more definite light upon the ætiology of the disease. And we believe the time will come when not only the results of pathological processes in animals will be studied for the benefit of humanity, but when the observation of the course of these processes will be used as a means of clinical instruction.

— The return of a hernia, irreducible for many years, is reported as having occurred after a fit of sneezing.

TUBERCULOSIS OF THE FEMALE GENITAL ORGANS.

IN the Transactions of the Société Anatomique[1] appears an account of the case of a woman, aged fifty-one, whose symptoms at first suggested typhoid fever, but in the absence of epistaxis, rose spots, ilio-cæcal gurgling, etc., and after the detection of disease at the apices of the lungs, the diagnosis of tuberculosis of the intestine was made. The course of the disease was rapid, and death ensued. At the autopsy tuberculosis of the lungs was observed, with cheesy softening, and cavities at the left apex. No tubercles were discovered in heart, spleen, kidneys, or liver. The latter organ was fatty. The mesentery showed miliary granulations, with swelling of the lymphatic glands. The intestine had whitish spots on its serous surface, elevating the peritonæum. These were scattered all over the small intestine and the ascending colon, especially abundant at the cæcum, where they became confluent. On opening the intestine it was found that each of these external spots corresponded to an ulceration of the mucous membrane internally, the ulcers being irregular, scalloped, rather deep, with sharp edges and sanious bases. Here and there a Peyer's patch was found ulcerated.

The uterus and its adnexa showed nothing externally, except an ulceration at the left of the cervix, extending through the mucous membrane. The vagina was perfectly healthy. The uterine cavity had preserved its physiological dimensions, and was quite filled with a whitish caseous substance. The mucous membrane was much altered, channeled with winding cavities of small dimensions, which contained the same substance, and discharged it into the uterus. The Fallopian tubes were much increased in volume, having at their free extremity a diameter equal to that of a quill. They were very tortuous, their calibre filled with the same cheesy substance as the uterus, and their mucous membrane presenting the same appearance. The broad ligaments had old adhesions, but no tuberculous lesions. The ovaries were both in a state of caseous degeneration. The peritonæum over them presented whitish salient spots like those of the intestine.

The age of the woman was such that, menstruation having ceased, nothing had called attention to the diseased state of the genital organs.

MEDICAL NOTES.

— Dr. Chervin has, according to *Science*, been studying with reference to disabilities which are developed by the annual conscription. The period chosen covered twenty years. After those cases of feeble constitution, evidently unfit for military duty, the most frequent disability was dental caries, after which followed hernia, etc. In considering the Department as a whole the average number of conscripts

[1] Le Progrès Medical, August 16, 1884.

rejected on this account was fifteen per cent., but in considering the separate cantons it was shown that they vary greatly in this regard, the least average being eight per cent., and the highest nearly twenty-four per cent. In seeking a cause for this singular difference, that sometimes alluded to, the drinking of sour Norman cider, was considered to have little real influence. The question of race was believed to be more important. So far as form and height are concerned, the tables for twenty years showed two physical groups or races, — the smaller in the west, the larger in the east, especially about Dieppe and Neufchatel. The taller race is much more subject to dental caries than the other, and this is confirmed by testimony from other departments. Baldness prevails to such an extent that two per cent. of the recruits examined were exempt on that account at the early age of twenty. Some connection appears to exist between this deficiency and decay of the teeth.

— The *Medical Times and Gazette* quotes from *Lo Sperimentale*, December, some observations on the irregularity of the pupil in the insane by Dr. Mosso, of the Turin Manicomia. He describes the results of the examination he has made of the pupils in three hundred insane and one hundred sane persons. Since Baillarger called attention, in 1851, to the frequency and diagnostic value of inequality of the pupils in general paralysis of the insane, other observers have shown that the same circumstance is observable in many other affections of the nervous centres, but in the present paper Dr. Mosso wishes to draw attention to the frequency of irregular shape of the pupil in insanity, and its occasional occurrence in the sane. Of the three hundred insane the pupil was found rotund or sub-rotund in sixty per cent.; oval in seven per cent.; irregular in twenty-five per cent.; and very irregular in three per cent. In the one hundred sane persons it was found to be irregular in nine. The general conclusions drawn are: (1.) That in the insane pupillary irregularity is of frequent occurrence, and is usually bilateral. (2.) In diseases of the nervous centres irregularity and inequality of the pupils have the same pathological significance, irregularity being, in fact, the first stage of inequality. Dr. Mosso only puts forward these observations tentatively, and asks for their corroboration by other inquirers.

— A telegram to the *London Times* from Philadelphia states: "The defunct Medical University of Philadelphia, which has caused great annoyance and trouble by selling bogus diplomas, has reappeared. The English consul at Philadelphia, Mr. Clipperton, states that he is in receipt of letters from various parts of Great Britain asking for information about the standing of the college, and to what extent its diplomas are accepted. The government here has done all in its power to stop the illegal traffic in diplomas by canceling the charter of the college and closing it. If impostors are still committing fraud upon the public through agencies in England they should be prosecuted by the British authorities."

— From a foreign exchange we learn, remarks the *Medical Press*, that Professor Hegar has recently read a paper at Freiberg in which he advocates stretching the spinal cord. Our readers will be glad to hear that the operation does not consist in opening the spinal canal and directly stretching the spinal medulla. But Dr. Hegar has found that when the spine is very much bent the cord is actually lengthened. His mode of procedure is to place the patient on his back, and then, with the knees kept carefully straight, the lower limbs are bent up towards the chin as far as possible. In this way the great sciatic nerves are put on the stretch, and this, as well as the over-bending of the spine, stretches the lower end of the cord. The cases for which Dr. Hegar recommends this treatment are those of women who suffer from pelvic pain, and of nervous phenomena referable to the branches springing from the lumbar enlargement of the cord. Already the treatment has been employed in a few instances, and, it is stated, with success.

— The following words will be read with interest by all prayerful souls who are looking for the millennium of medicine. The remarks are from an article upon the Microscope in Analysis in the *Scientific American* of August 30, 1884: "The student of medicine is to-day enabled to unravel, before the potent glance of the perfected microscope, the deepest mysteries of the medicinal plant, flower, herb, or root. The nature, virtues, attributes, etc., of these can be studied at leisure, and gazed upon with an eye that magnifies from a few hundred to thousands of diameters."

— A new sponge and wound-pad has, we learn from the *British Medical Journal*, been manufactured for Mr. Sampson Gamgee as the result of a suggestion made by Sir T. Spencer Wells. It differs from the ordinary sponge inasmuch as it is a powerful absorbent in its dry state, and need not be previously wetted. Its absorbing power is said to be equal to fully sixteen times its own weight. It consists of concentric layers of absorbent cotton and cocoa-nut, or like fibre, within a covering of absorbent gauze. Its antisepticity is secured by placing in the centre a thin and easily friable capsule containing the antiseptic of any kind desired, eucalyptia or thymol, carbolic acid, bichloride of mercury, etc. An antiseptic may thus be inclosed within absorbent materials, and preserved intact for weeks and months together, if necessary, until required for use. All that is required is a sharp squeeze of the sponge or pad just before using it; and by subsequent burning all fear of sponge-infection is avoided and becomes impossible.

NEW YORK.

— The first meeting this season of the Society of Medical Jurisprudence and State Medicine was held Thursday evening, September 11th, when two papers read at previous meetings were discussed. The first was one on the Fillmore Will Case, by Dr. L. C. Gray, and the second one was on the Dwight Insurance Case, by Dr. J. G. Kiernan, now Superintendent of the Chicago Lunatic Asylum.

— The Academy of Medicine has lost a legacy of $5000 by its action last autumn in rescinding the Flint resolutions requiring the committee on admissions to recommend for membership only such candidates as supported the National Code of Ethics, which the Constitution distinctly declares to be the Code of the Academy. The late Corresponding Secretary, Dr. John G. Adams, left the Academy $5000 in his will; but after the action referred to added a codicil revoking the legacy and devoting the amount to various charities. Among the bequests in the will is the endowment of a free bed in the Presbyterian Hospital.

— During the first week of September the joint water commission of Newark and Jersey City held a meeting in reference to the pollution of the Passaic River by the sewage of Paterson and Passaic City.

Correspondence.

HOUSE OFFICERS OF THE MASSACHUSETTS GENERAL HOSPITAL DURING ELEVEN YEARS PAST.

Massachusetts General Hospital,
Boston, *August* 11, 1884.

Mr. Editor, — I herewith send a list of the house officers of the Massachusetts General Hospital for the past eleven years, believing that the more carefully it is examined the more clearly it will appear to all unprejudiced minds that the appointments have been made from no motives of nepotism or favoritism, but with the simple purpose of getting the best available men for the service of the hospital. Whether this object has been obtained with a fair degree of success, or whether better men would have been selected by strict adherence to the results of a competitive examination, is a matter of individual opinion.

J. H. W.

MEDICAL.

1874. W. F. Whitney, Boston; C. M. Jones, Worcester.
1875. T. W. Huntington, Burlington, Vt.; T. F. Moore, Boston.
1876. Marcellus Hutchinson, Wakefield; E. G. Booth, Somerville.
1877. W. O. Moseley, Newburyport; J. J. Minot, Boston.
1878. W. W. Gannett, Boston; V. Y. Bowditch, Boston.
1879. H. P. Jaques, Boston; W. N. Bullard, Boston.
1880. W. N. Swift, New Bedford; T. F. Sherman, Boston.
1881. F. W. Taylor, Cambridge; H. F. Vickery, Weymouth.
1882. F. A. Dunbar, Cambridge; A. H. Hodgdon, Arlington.
1883. H. W. Newhall, Lynn; J. T. Bowen, Boston.
1884. H. Jackson, Boston; G. G. Sears, Boston.

SURGICAL.

1874. Walter Ela, Cambridge; George Stedman, Boston; Wm. Dunn, Boston; Samuel Howe, Cambridge.
1875. A. T. Cabot, Boston; G. H. Tilden, Boston; W. A. Winn, Arlington; J. E. Garland, Gloucester.
1876. O. H. Everett, Charlestown; O. T. Howe, Lawrence; C. W. Cooper, Amherst; H. C. Haven, New London, Conn.
1877. J. W. Elliot, Keene, N. H.; J. W. Brannan, Cincinnati, O.; W. C. Mason, Bangor, Me; H. L. Morse, Bangor, Me.
1878. F. S. Watson, Boston; J. B. Wheeler, Burlington, Vt.; S. J. Mixter, Boston; G. W. West, Salem.
1879. W. J. Otis, Chicago, Ill.; G. H. Monks, Boston; D. P. Allen, Cleveland, Ohio; G. G. Hayward, Boston.
1880. F. B. Harrington, Salem; W. D. Hodges, Boston; C. P. Strong, Bridgewater; C. B. Witherle, Castine, Me.
1881. John Homans 2d, Boston; F. H. Lombard, Boston; O. K. Newell, Boston; A. T. Wakefield, Cambridge.
1882. C. M. Godding, Providence, R. I.; C. S. Holden, St. John's, Fla.; F. M. Briggs, Boston; C. W. Galloupe, Lynn.
1883. W. M. Conant, Bridgewater; O. J. Pfeffer, Portsmouth, N. H.
1884. H. C. Baldwin, Somerville; G. M. Kimball, Concord, N. H.; Edward Reynolds, Boston; Dillon Brown, Louisville, Ky.

Miscellany.

ERYTHROXYLON COCA.

Dr. Squibb writes[1] regarding this drug: The condition of the principal markets of the world for coca for the past six months has been exceptionally bad. That is, whether good coca was sought for in the ports of Central and South America, or in London, Hamburg, or New York, the search, even without limitation in price, was almost invariably unsuccessful. Not that the drug, independent of quality, was scarce, for hundreds of bales were accessible at all times, but the quality was so poor as to be quite unfit for use. The samples, instead of being green and fragrant, were brown and odorless, or musty and disagreeable, at once condemning the lots they represented, to the most casual observation, and yet the price was high enough to have represented a good article. The best that could be done, by the most careful buyers, was to accept occasional parcels, the best of which were of very inferior quality, and therefore unfit for medicinal uses, and these at very high prices. Coca is well known to be a very sensitive and perishable drug, only fit for its somewhat equivocal uses when fresh and green and well cared for in packing and transportation. Very much like tea in this and other respects, it should be packed and transported with the same care and pains, in leaded chests, or in some equivalent package. It is very well known that tea, if managed, transported, handled, and sold as coca is, would be nearly or quite worthless, and therefore coca, managed as the great mass of it is, must be nearly all of it comparatively worthless. If used as tea is, this would probably soon appear, but when used as a medicine, which has been highly extolled and well advertised, it seems to go on equally well whether of good or bad quality. It is pretty safe to say that nineteen twentieths of the coca seen in the United States market within the past two years must be almost inert and valueless, yet all is sold and used, and its reputation as a therapeutic agent is pretty well kept up. At least many thousands of pounds of the brown ill-smelling leaf, and of preparations made from it, are annually sold. And worse than this, considerable quantities of a handsome looking green leaf, well put up, and well taken care of, have been sold and used as coca, when wanting in nearly all its characteristics.

The writer for more than a year past has seen but one or two small lots of moderately good coca, and in common with other buyers has been obliged to buy the best that could be found to keep up his supply of the fluid extract. Almost every purchase has been made on mental protest, and he has been ashamed of every pound of fluid extract sent out, from the knowledge that it was of poor quality; and there seems to be no more prospect of a supply of better quality than there was this time last year, because so long as an inferior quality sells in such enormous quantities at good prices the demands of trade are satisfied.

Under this condition of the markets the writer has finally decided to give up making a fluid extract of

[1] Ephemeris, July, 1884.

coca, and has left it off his list, adopting a fluid extract of tea instead, as a superior substitute, for those who may choose to use it, and regrets that this course was not taken a year ago.

The character of coca as a therapeutic agent is discussed by Dr. Squibb, and the discrepancy referred to between the results obtained by Sir Robert Christison and those by Mr. Dowdeswell in the physiological laboratory of University College. This discrepancy can be accounted for only by supposing the two observers to have used a different article. Mr. Dowdeswell claims that the annual consumption of 40,000,000 pounds of this comparatively inert substance at a cost of $10,000,000 is an example of one of the large economic blunders of the age.

Dr. Squibb's own remarks upon the power of coca were based upon the premise that the same power in tea, coffee, guarana, etc., which refreshes, recuperates, and sustains in the condition which needs or requires such effects, also counteracts the tendency to sleep or produces wakefulness when a tendency to sleep exists, and, therefore, if a tendency or disposition to sleep could be prevented by these agents this tendency might be used as a measure of their effects when used in varying quantities, and thus measure the agents against each other for dose or quantitative effect. In this way the proposition is to first measure coca against tea, then coffee against guarana, and finally to compare the four agents, using pure caffeine as a kind of standard to measure by.

An opportunity for such trials occurred in a healthy individual, sixty-five years old, not habituated to the use of either tea, coffee, tobacco, or any other narcotic substances, of good physical condition and regular habits, and not very susceptible or sensitive to the action of nervines or so-called anti-spasmodics. Quantities of preparations of valerian, asafœtida, compound spirit of ether, etc., which would yield a prompt effect upon many individuals, seem to have little or no effect upon him, nor do moderate quantities of wines or spirits stimulate him. That is to say, he has not a very impressible nervous organization, is not imaginative, nor very liable to accept results on insufficient or partial evidence.

Fully occupied with work, both physical and mental in due proportion, for more than ten hours every secular day, when evening comes he finds himself unable to read long on account of a drowsiness, supposed to be of a purely physiological character. With a full breakfast at about 7.30, a full dinner at about 2.30, and a light evening meal about seven, and no stimulants or tea or coffee at any time, he finds, as a matter of not invariable but general habit, that by half-past eight drowsiness becomes so dominant that it becomes almost impossible, and generally impracticable, to avoid falling asleep in his chair while attempting to read, even though ordinary conversation be carried on around him.

The first trial to combat or prevent this drowsiness was made with caffeine. The first specimen used was a very beautiful article made by Merck, of Darmstadt, and after that by pure specimens made for the purpose, the two kinds being found identical in effect.

Commencing with a one-grain dose at about 6.30 P. M., on alternate evenings, leaving the intermediate evenings in order to be sure that the nightly tendency still persisted, and increasing by half a grain each alternate evening, no very definite effect was perceived until the dose reached two and one half grains, and this dose simply rendered the tendency to sleep resistible by effort. After an interval of three evenings, with the tendency to sleep recurring with somewhat varying force each evening, a dose of three grains was taken, the maximum single dose of the German Pharmacopœia. This gave a comfortable evening of restedness, without sleep, or any very strong tendency to it, until ten o'clock. Without anything to counteract sleep the rule was to read with difficulty by nine, without much comprehension by a quarter-past nine, and either be asleep or go to bed by half-past nine. The three-grain dose of caffeine repeatedly obviated all this discomfort up to ten o'clock, but did not prevent the habitual, prompt, and sound sleep from the time of going to bed till morning.

To produce a corresponding effect three fluid drachms of a good preparation of fluid extract of coca were necessary. An equivalent amount of the coca preparation assayed .45 grain of cocaine. If, then, three grains of caffeine equals in physiological or therapeutical effect .45 grain of cocaine, it follows that cocaine is about 6.5 times more effective than caffeine, but it also follows that the coca accessible, and even the very best coca, contains very much less of its alkaloid than those articles which yield caffeine do of that principle.

A BUSY LIFE.

A CORRESPONDENT of the *Canadian Medical Journal* for July gives an interesting glimpse of a many-sided man — the distinguished professor of pathology at Berlin, Professor Virchow. After a short sketch of his life, the different chairs of instruction he has held, the noted men who have been his pupils and assistants, including Klebs, Recklinghausen, Rindfleish, the recently-dead Cohnheim, Liebreich, Hoppe-Seiler, Orth, Ponfick, etc., we are shown how after forty years of teaching he still works: —

"For the first three or four Mondays of the semester, from 7.30 to 10 A. M., he performs an autopsy before the class, giving detailed directions as to methods and the proper modes of observation. On Wednesday and Saturday are held the famous demonstration courses on morbid anatomy, in which the material for the week, often ten or fifteen cases on each occasion, is brought before the students. The time occupied is at least two and a half hours, the first half of which is taken up by some special subject, the pathology of which is well illustrated by the specimens at hand. At eleven A. M. he gives each day a lecture on special pathology. Politics and anthropology now absorb the greater part of his time. He is a member of the German Parliament and of the Prussian House of Representatives; and I noticed a day or so ago in one of the daily papers that Virchow had spoken in one of these thirty-eight times during the session. It need scarcely be stated that he is an advanced Liberal. He is also a member of the City Council — not an idle one either, as the copious literature of the "canalization" (drainage) system of the city can testify. His archæological and anthropological studies are most extensive, and it is upon these subjects that he now chiefly writes. When one turns to the Index of the Berlin Archæological or Anthropological Societies, the figures after his name stand thick and deep, just as they do in a similar index of medical subjects. He has been collaborator with Dr. Schliemann in several of the important works issued

on Trojan antiquities. His collection of skulls and skeletons of different races, one of the most important in Europe, will doubtless find an appropriate place in the new Archæological Museum erected by the government. There are those who grudge him the time he spends on politics and his favorite studies, but surely he has earned a repose from active pathological work, and may well leave section cutting and bacteria staining to the smaller fry; and when we consider that in addition to the classes above mentioned he is President of the Berlin Medical Society, and edits his *Archiv*, now a large monthly journal, it can scarcely be said that he neglects professional duties. On all questions of general, medical, and scientific interest his utterances are not infrequent, and display a judicious conservatism — as witness his sound position regarding the Darwinian theory as opposed to the vagaries of Haeckel. It is satisfactory to note that the attack of gouty nephritis of some eighteen months ago appears to have left no trace. Aged, of course, he is (he is now sixty-three), but there is still a vigor and sprightliness in the wiry frame which bespeak years of continued activity."

A CASE OF ACUTF POL'OMYELITIS IN THE ADULT.

Dr. John Van Duyn, of Syracuse, N. Y., reports, in the *Archives of Medicine*, August, 1884, a case which is of interest as presenting a nearly typical record of this disease, as well as showing the apparent cause of the malady with unusual distinctness.

F. D., a clothier's clerk, twenty-three years old, of average height and good muscular development. Had worked on a farm during summers until 1880, which year he spent at school. Early in 1881 he entered a clothing store as clerk, but in the following November he had malarial fever, and in February, 1882, had a moderately severe attack of typhoid fever. From the time of his recovery, in early spring, until the following October, he worked on a farm, and then resumed his position as clerk. Had never had venereal disease, and had never been intemperate in the use of alcohol.

August 24, 1883, he walked nine miles, arriving at his destination at two o'clock the next morning; went to bed at three o'clock, and slept six hours. At noon he engaged with others in "putting" a stone, which weighed nearly forty pounds, and in jumping. The stone was "put" from the shoulder by the right arm forward, and thrown by both arms over the head backward. This contest was most violent, and lasted two hours. Then he ate a hearty dinner. At 4.30 P. M. he walked over three miles, then rode in a stage two miles, and in the cars ten miles, after which he walked with friends in the city, and finally went to bed at eleven o'clock. The next day he felt some soreness, which, in a day or two, entirely passed away. Until the end of the two weeks following his life was as it had been before. By his exertion he did not become overheated, was not chilly, nor did he take cold. On September 7th, when he woke in the morning, he felt severe pain between the shoulders, equal in intensity on both sides of the spinal column, which was greatly increased by turning the head to either side. He went to work, but during the day he felt chilly, and his face was very red. In the afternoon the right hand began to lose its grasp, so that he could hardly hold the pencil in making sale-tickets. The power to use this hand grew gradually less, until, three days later, it disappeared entirely. That evening he rode ten miles by rail. He could not sleep because of headache, chills, and nausea. The soreness became universal. The second day he got up, could raise the right hand to his face, but could not button his clothes with it. He walked to see the village doctor, but found the strength of his legs failing to the extent that, in the afternoon, when he rode home, three miles distant, he could with difficulty get into and out of the wagon. Went to bed at night and "took a sweat." The third day felt sick and sore, but could get up, and even went out of the house. When he tried to put on his hat with his left hand, the right being powerless, he found it impossible, and with difficulty only could he lift this hand to the latch of the door. After he had gone to bed at night he found he could not raise either elbow from the bed. From this time on he was confined to the bed. He suffered from general soreness. To breathe gave him pain, and he could not lie on either side because of the pain which the pressure on the chest gave him. The whole body, excepting the head and neck, was so sensitive that suffering was caused by the gentlest touch. During the following three or four days paralysis of motion became general in the extremities, but not affecting the head, neck, thorax, and the left fore-arm and hand. Could not raise his heels from the bed, but, while on his side, could partially flex the thighs on the abdomen. Constipation became severe, but the bladder was unaffected. During this time the temperature was twice observed and recorded. On the fourth day it rose to 102° F.; a few days later to 101° F. After the tenth day improvement began to be manifest, and continued until the end of the second week, when he could get into a chair, but could not stand, nor could he raise his feet from the floor. The soreness had receded to the shoulders. At the end of the third week could walk with assistance, but could not lift the feet higher than enough to prevent dragging. Constipation continued, and did not disappear until two months later. The right arm was powerless. The left arm was recovering strength rapidly. This arm had not been affected below the elbow. At the end of the fourth week he could walk alone, the right leg having regained considerable strength, but the left leg could as yet be moved only with difficulty. At this time he began to feed himself again by using the left hand after the elbow had been rested on the table. Throughout there had been no abnormal sensations, no numbness. During these four weeks he lost sixty pounds in weight.

Examination, January 12, 1884. Complete loss of voluntary motion in, and great atrophy of, all the muscles supplied by the right brachial plexus, exceptin those supplied by the fifth and sixth cervical roots The right hand, with extreme atrophy in all parts, was *en griffe*. The muscles of this extremity, including those of the shoulder, were unaffected by faradism, but all, with the exception of those in the hand, reacted to strong galvanism. On the left side the supraspinatus and infra-spinatus were greatly atrophied, the pectoral muscles less so, while all contracted under faradism. The elbow could with greatest difficulty be raised to the level of the shoulder. Below the shoulder the left arm was normal. Power to raise either knee was diminished. The left anterior tibial was not under control of the will, and was atrophied, but reacted to strong faradism. Because of the loss of this muscle the foot falls in extension when raised.

To the present time, May 16th, treatment by electricity has been almost daily. All the muscles of the right upper extremity contract under galvanism, with the formula CCC. > ACC., while the brachialis anticus, biceps, sup. longus, and pectorales major and minor contract under faradism. The pectoral muscles, biceps, and anterior brachial show decided contractions by the will. The nutrition of these muscles under the influence of the will so far exceeds that of the others that their growth causes them to stand out in marked contrast with the surrounding atrophy. The will has control of all the affected muscles of the left shoulder and of the left anterior tibial.

The writer remarks that should the gymnastic violence be conceded as the cause, than which no other is apparent, then interest must attach itself to the length of time which intervened between the cause and the outbreak of the disease, and to the fact that while both extremities, upper and lower, were affected during the fever, the muscles which remained paralyzed and atrophied were those most violently exercised, and the severity of the results and their permanency are in direct ratio with the use of the muscles.

CHRONIC ILEO-COLITIS AND LARYNGISMUS STRIDULUS.

DR. ROBERTS BARTHOLOW, in a clinical lecture, made the following remarks upon a case showing the above complication: The child before you was shown you some time ago, suffering with chronic ileo-colitis. The disease had been extremely persistent and severe, but under a properly regulated diet and the use of tincture of iodine and carbolic acid, the so-called carbolate of iodine, — a half a drop of each being taken three times a day, — there has been rapid improvement, and now the symptoms have disappeared, notwithstanding that the instructions in regard to the regulation of the diet have been imperfectly obeyed. You will remember that I insisted upon a change in the diet as of the first importance in the treatment of this case.

I hope that you will observe the character of the cough which the child has. It has frequently occurred ever since the existence of the ileo-colitis. Every time the child takes cold it has this hard, ringing cough which you now hear, and which is termed a "croupy cough." I have on several occasions insisted that this phrase is a misnomer. It is called croupy simply because it has the loud, ringing, metallic character which is associated with the cough of spasmodic croup. This is not the true croupy cough. The cough of exudative laryngitis is husky in addition to being ringing and metallic. The cough which this child presents is significant of laryngismus stridulus; that is, an affection of the larynx in which the muscles are thrown into a state of spasm. A child who during the day has been exposed to the cold, or who in the evening has eaten heartily of indigestible food, wakes up in the night with an attack of so-called croup. This is really an example of laryngismus stridulus, or spasm of the muscles of the larynx. In the case I have supposed there are two factors: the child takes cold, or it has an irritation of the gastro-intestinal mucous membrane. We can here apply with great certainty our physiological knowledge. The mechanism is very obvious. The pneumogastric nerve which supplies the mucous membrane of the fauces, and the gastro-intestinal mucous membrane in part, also has branches going to the larynx. This nerve is both motor and sensory in function. All the muscles of the larynx, with the exception of the crico-thyroid, are supplied by the inferior laryngeal nerve, while the superior laryngeal nerve is distributed to the mucous membrane and the crico-thyroid muscle. Now we have the terms of the problem. Irritation of the peripheral distribution of the pneumogastric nerve is referred to its motor branches, and the muscles of the larynx are thrown into a state of spasm. It would be a great mistake to confound this condition with true croup.

ACUTE INTUSSUSCEPTION IN AN INFANT EIGHTEEN WEEKS OLD.

A CASE of acute intussusception remarkable for the favorable result in so young a child and for the clearness of the diagnosis is reported in the *Lancet* (August 30th) by Dr. Collier. The infant had been suckled from birth, but as the mother did not have sufficient milk she supplemented this diet with small quantities of bread soaked in water and sweetened with sugar. For a week before he was seen the child had vomited a little milk after each meal. The dejecta had been constipated, slimy, and offensive. On February 15th, whilst lying asleep in his mother's arms, he suddenly became convulsed and appeared in great pain, screaming loudly and struggling, so that it was with difficulty that he could be held. After the fit had lasted a few minutes the struggling gave place to violent straining, "as if he was trying to relieve himself," and during these efforts a large quantity of gas was discharged per anum. On the diaper being inspected it was found to be soaked with bright blood and slime, but did not contain any fæcal matter. He now appeared more calm, and after a short time took the breast, but almost immediately afterwards became very sick, bringing up a large quantity of milky fluid. Since then he had mostly been quiet, crying and straining only by "fits and starts." He had taken small quantities of milk and water from a teaspoon, but nearly always returned them immediately. No natural action of the bowels had occurred since an hour before the onset of the attack, although the diapers were several times found stained with "bright watery blood." Urine was passed more frequently, but in smaller quantities than usual.

On examination the following day at four P. M., the condition of the child was found to be as follows: He was well nourished, but much collapsed, with pale face and pinched, drawn features; pulse 100, feeble and irregular; respiration 30, shallow; skin cold and perspiring; temperature 100.5° F., taken in the rectum. There was much distention of the abdomen, and percussion yielded a tympanitic note, except where the right inguinal and hypogastric regions were occupied by an elongated swelling, which ran in a direction upwards and inwards and could plainly be seen and felt. Pressure over this tumor gave rise to crying and struggling on the part of the infant. On account of his tender age it was not considered advisable to extend the examination to an exploration of the rectum. Three blood-soiled diapers were shown by the mother, and one of them, said to be in use at the onset of the at-

tack, contained about two ounces of blood and mucus.

The treatment for five or six hours consisted of hot fomentations applied to the abdomen, and a mixture containing tincture of belladonna, chloric ether, and sal volatile in appropriate doses every two hours. Brandy was also given. At nine P. M., the condition remaining substantially the same, it was decided to anæsthetize, and attempt to dislodge the prolapsed portion of bowel by injecting water. After chloroform had been inhaled some few seconds, and before insensibility was produced, the patient became violently sick, ejecting about half a pint of pale-yellow fluid, having a strong fæcal odor. The pulse at this moment became scarcely perceptible, and the child appeared in the gravest danger, but on chloroform being suspended and ammonia applied to the nostrils the pulse returned, and remained fairly strong throughout the remaining stages of anæsthesia. The fingers of one hand being kept in contact with the sausage-shaped tumor described above, warm water was slowly injected into the rectum by means of a Higginson's enema syringe, care being taken to prevent its return by the side of the nozzle. When about twenty ounces had been injected a sense of the tumor slipping away was plainly perceptible to the fingers in contact with the abdomen. By the time some thirty-five to forty ounces had been injected the tumor had entirely disappeared, and the most careful examination failed to detect it. The patient was now wrapped in warm blankets, and the injected fluid allowed to drain off. During returning consciousness the child once more vomited freely, bringing up fluid of the same color, and possessing the same strong fæcal odor as before. Ten drops of brandy in a teaspoonful of ice-cold water were subsequently administered and retained, and the child afterwards manifested an inclination to sleep. The hot fomentations were again ordered to be applied to the abdomen, and the belladonna mixture to be given every two hours. At twelve P. M. a large quantity of water was found to have been passed per anum. The child appeared more comfortable, and was sleeping calmly. He had not evinced a desire for milk when placed to the breast. On the diapers being changed about two tablespoonfuls of dark-yellow fæcal matter were found to have been passed. The fomentations were ordered to be continued to the abdomen, and the mixture given every four hours.

During the night the child took the breast twice, and had another natural action of the bowels at six o'clock the following morning. From this time the patient made an uninterrupted recovery.

DISSEMINATED SCLEROSIS.

THE study of a case of disseminated sclerosis which, in its clinical features, closely simulated lateral amytrophic sclerosis, has given M. Déjérine[1] the opportunity of making some interesting and valuable remarks on the pathology of scleroses in general. The case which forms the starting point of the paper was that of a woman, aged forty-six years, who had had for fourteen months atrophic paralysis, with contracture of all four limbs. The disease commenced in the legs, spreading thence to the arms, and ultimately to the lower part of the face; the paralysis of the limbs became absolute, and the atrophy extreme; it was throughout symmetrical. An interesting feature of the case was the high degree of contracture which was present; so great was it that it could not be altogether overcome by the employment of force; the tendon reflexes were highly exaggerated. The general and special sensibility was unimpaired; but towards the end there were some symptoms of labio-glossal paralysis. At the autopsy it was found to be a case of disseminated and not of lateral amyotrophic sclerosis. Spinal and cerebral scleroses, M. Déjérine goes on to say, may be and ought to be divided into primary when the neuroglia is affected from the outset by the irritative process, and secondary when it is only the result of the nerve disorder. In disseminated sclerosis the affection of the neuroglia is primary, as is shown by the fact that the nerve tubes and axis cylinders disappear very slowly from gradual compression by the contracting neuroglia. In tabes dorsalis the contrary is seen; for the axis cylinder disappears before the neuroglia has commenced to proliferate. Disseminated sclerosis, then, and probably all forms of non-systematic sclerosis have a vascular origin; whereas, in systematic sclerosis, the vascular lesions which are present are secondary. Thus, in a case of hemiplegia, fatal just when rigidity was setting in, the vessels of the pyramidal fasciculus were already found to be undergoing endo- and peri-arteritis, and their lymph sheaths were distended with corpuscles; but the nerve tubes showed a much more advanced state of degeneration, the axis cylinders having already disappeared, and the neuroglia showing traces of irritation at a point far removed from the vessels, contrary to what takes place in non-systematic sclerosis. The vascular origin of the patches in the latter explains both their scattered distribution and the absence of any tendency to spread in a systematic manner.

[1] Revue de Médecine, March, 1884, and Practitioner, August, 1884.

HYDRAMNION IN EXTRA-UTERINE PREGNANCY.

AN interesting case of this kind is reported by Dr. R. Teuffel, of Chemnitz, in a recent number of the *Archiv für Gynäkologie*. It is important as exemplifying a rare source of error in diagnosis. The patient was thirty-six, and her last child had been born fourteen years previously. Menstruation stopped in March, 1881, and the usual symptoms of pregnancy were noticed. In August, 1881, the patient suffered from severe and long-continued abdominal pain, and was medically treated for inflammation of the bowels. September 25, 1881, labor-like pains came on, with hæmorrhage and the expulsion of a membrane, this latter being seen only by a midwife. Birth was daily expected, but did not follow, and fœtal movements were still felt in October and November, after which they ceased, and the size of the belly began to slightly diminish. In 1882 the abdomen began to increase again; she felt well, and in March, 1882, menstruation reappeared. When she came under treatment she was wasted, sleepless, suffered pain, but was not feverish. The circumference of the belly was 116 centimetres (forty-six inches); it was dull, with resonance in the flanks, fluctuating, with solid masses here and there to be felt. A firm, rounded swelling occupied the pelvis, pushing the uterus upward, forward, and to the right. There was no œdema of legs or other parts. The case was diagnosticated as one of ovarian cyst, and an ex-

ploratory puncture was made. The fluid withdrawn gave a sediment, on standing, in which striated muscular fibre was identified. Feverish symptoms followed the puncture, with pain, diarrhœa, and vomiting, and in ten days the patient died. On autopsy the cyst was found to contain a full-term, macerated child and several litres of amniotic fluid. There was neither effused blood nor signs of peritonitis, so that the immediate cause of death remained a mystery.[1]

PROF. R. E. ROGERS, M. D.

PROF. ROBERT EMPIE ROGERS, of Jefferson Medical College, Philadelphia, died on Saturday, September 6th, at the age of seventy. He was born in Baltimore in 1814, and graduated from the Medical Department of the University of Pennsylvania in 1836. He was for eight years Professor of Chemistry in the University of Pennsylvania, and subsequently Professor of Chemistry in the Medical Department of the University of Pennsylvania. In 1877 he accepted the chair of Chemistry in Jefferson Medical College, the duties of which position he only recently ceased to discharge. He was an excellent teacher and a lecturer, much liked and appreciated both by his colleagues and students.

DR. RIGGIN BUCKLER.

DR. RIGGIN BUCKLER, of Baltimore, who died recently (August 31st) at Narragansett Pier, was a graduate of Harvard College and of the Medical School of the University of Maryland. After graduating in medicine he studied four years in Paris giving special attention to physiological chemistry.

He was popular and successful as a practitioner in Baltimore, continuing the medical reputation attached to the name since the active days of his father and uncle, Drs. John and Thomas Buckler. He was twice Surgeon-General of Maryland.

OBITUARY. DR. JULIUS COHNHEIM.

PROFESSOR JULIUS COHNHEIM, of Leipsic, one of the foremost of pathological investigators, died on the 14th ult., at the early age of forty-five, from the chronic affection (renal disease) from which he had been so long a sufferer. After having studied medicine from 1856 to 1860 at Berlin, Würzburg, Greifswald, and Prague, he commenced practice at Berlin. In 1864 he served under Rudolf Virchow as assistant in the Pathological Institute in Berlin. It was with much appropriateness that the announcement of his death was made by his old master, Virchow, before the Section of Pathology in the closing days of the Copenhagen Congress. In 1868 he was professor of the same department in the Medical School of Kiel, and four years later he was transferred to the chair of Pathology in the University of Breslau, where his prælections attracted so much attention that on the first vacancy he was called to fill the professorship at Leipsic, which became immediately associated with his best work. His name will live chiefly for his signal contributions to the doctrine of inflammation, his experimental proofs — by vivisection mainly — having been universally admired for their careful exclusion of every source of fallacy. He showed that in all inflammatory processes, without exception, the greatest part of the pus-corpuscles consist of white blood corpuscles that have passed through the walls of the veins and capillaries. Till this induction was arrived at Virchow's view was the prevalent one, — namely, that the pus corpuscles are connective-tissue corpuscles transformed through cell-cleavage. "Without blood-vessels no inflammation is possible," was Cohnheim's great thesis, a doctrine which had been foreshadowed by others, notably Waller in 1848, but waited for its full scientific establishment for Cohnheim.

[1] London Medical Times, July 5th.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM SEPTEMBER 6, 1884, TO SEPTEMBER 12, 1884.

GREENLEAF, CHARLES R., major and surgeon. To conduct a detachment of recruits to the Department of the Columbia, and upon completion of this duty rejoin his station, Columbus Barracks, Ohio. S. O. 210, A. G. O., September 6, 1884.

GORGAS, W. C., first lieutenant and assistant surgeon. Assigned to duty at Fort Randall, D. T. S. O. 98, Department of Dakota, September 5, 1884.

EGAN, P. R., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Fisher to report at Fort Lowell, A. T., for duty as post surgeon. S. O. 82, Department of Arizona, September 2, 1884.

FISHER, W. W. R., first lieutenant and assistant surgeon. Assigned to duty at Fort Apache, A. T., relieving Assistant Surgeon Egan. S. O. 82, C. S., Department of Arizona.

EWING, CHARLES B., first lieutenant and assistant surgeon. Assigned to duty, as post surgeon, at Fort Stanton, N. Mex. S. O. 177, Department of the Missouri, September 6, 1884.

MCCAW, W. D., first lieutenant and assistant surgeon (recently appointed). To report in person to the commanding general, Department of the Missouri, for assignment to duty. S. O. 209, A. G. O., September 5, 1884.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 13, 1884.

HEYL, T. C., surgeon. September 8, 1884, from the Adams and to the Receiving Ship Independence, Mare Island, Cal.

OPEN TO UNIVERSAL COMPETITION.

THE Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons of New York is open to the competition of alumni of *any* medical college.

It consists of a prize of *five hundred dollars*, to be awarded to the best medical essay submitted upon any subject the writer may select. The award will be paid as soon as the successful article shall have appeared in print.

If no one of the competing essays be deemed sufficiently meritorious the prize is not awarded. An essay, in order to be held worthy of the prize, must contain the results of original investigations made by the writer.

An award of this prize will be made at commencement, 1885. Essays must be sent to a member of the prize committee before April 1, 1885.

Competing essays must each be marked with a device or motto, and accompanied by a sealed envelope, similarly marked, containing the name and address of the author.

R. W. AMIDON, M. D., Chairman, 18 W. 21st St.,
ROBERT ABBE, M. D., 32 East 20th St.,
WALTER MENDELSON, M. D., 209 W. 46th St.,
Committee on Prize Essays.

ERRATUM. — In the note appended to the chart in Dr. Boardman's paper, on page 247 of the last issue of this journal, read The sign *o* indicates a dejection (not an injection).

BOOKS AND PAMPHLETS RECEIVED. — Practical Manual of Diseases of Women and Uterine Therapeutics. For Students and Practitioners. By H. Macnaughton Jones, M. D., etc. New York: D. Appleton & Co. 1884.

Excision of the Rectum for Cancer. Operation. By Walter Coles, M. D., St. Louis, Mo. (Reprint.)

Old and New Codes. By A. M. Wilder, M. D. Read before the California State Medical Society, April 16, 1884.

Hospital Sunday and Hospital Saturday. Their Origin, Progress, Development, etc. By Henry C. Burdett. London, Kegan Paul, Trench & Co. 1884.

Preventable Blindness. By Samuel Theobald, M. D., Chairman Section on Ophthalmology, Otology, and Laryngology. Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland. 1884.

Medical College of Virginia. Forty-Seventh Session, 1884–85.

Original Articles.

AMPUTATIONS AT THE RHODE ISLAND HOSPITAL FROM 1868 TO 1883.

BY EDWARD T. CASWELL, M. D.,
Surgeon to the Hospital.

THE following tables present the statistics of all the major amputations performed at the Rhode Island Hospital for the fifteen years that have elapsed since the opening of the hospital, October 1, 1868. The record closes with September 30, 1883, and includes the results of three cases then remaining in the hospital. The whole number of cases is, of course, small, and it is not to be supposed that their presentation will add to or alter the well-known and established principles applicable to these operations. Recognizing the uncertainty of figures and the prevalent belief that statistics are unreliable, I still think that any such collection of data possesses a certain degree of interest, and can afford instruction to every surgeon whose labors are in the same field. Both successes and failures have alike their lesson. At all events, they show something of the work accomplished by the hospital. In the earlier years of its existence this hospital, the first of its kind in the city of Providence, had to win its place in popular favor, and to overcome more or less opposition and distrust. As a consequence it will be seen that in the earlier years the number of cases brought to the hospital demanding operation were comparatively few. Its position now has become firmly established, and with the growth of the city and the increase of varied manufacturing interests it is more than probable that the next decade will see it taxed to its utmost capacity.

The operations have been tabulated under the heads of Traumatic Primary, including a period of less than forty-eight hours, Traumatic Secondary, at any time after that period, and Pathological. For the sake of convenience I have used the numbers 1, 2, 3, to designate respectively the upper, middle and lower thirds of a limb, and the junction of two thirds has been expressed thus: 1 — 2. Any one who has had occasion to look up hospital records will probably appreciate the dissatisfaction that is felt by the compiler when he finds that his blanks cannot all be filled. Sometimes the side of the body is not specified; the cause of the injury is not always given; frequently the method of operating is entirely ignored, and in some cases of death the cause of death is passed over. The latter blank I have filled according to my best judgment, after a careful study of the case. Double amputations and reamputations have been included under their appropriate heads, with cross references. I have said that the list is of the major amputations, but nine operations upon the foot are included.

The Lister method and dressings were first used in the hospital in February, 1878. Since that date very many of the operations have been done according to the various modifications of that method that have been in vogue. The two chief points of Listerism, drainage and cleanliness, have been faithfully sought by all the surgeons of the staff. Some have had more decided views than others as to antiseptic treatment. No attempt has been made to institute a comparison between the methods of treatment in this respect, as the number of cases was so small, and the results of such large experience are already matters of record. The various antiseptics, carbolic acid, thymol, boracic acid, phenol, iodoform, chlorinated soda, and corrosive sublimate have all been used. The spray has been rarely used, if at all, during the last few years.

The results of treatment compare, perhaps, favorably with those of other hospitals, although it seems as if they ought to have been better when we consider the salubrious situation of the hospital, the possession of large and well-ventilated wards, and the freedom from overcrowding which has generally existed. But it must be remembered that most of the accidents are caused by railroads and machinery, and are often of so severe a nature that the best efforts of the surgeon will prove fruitless.

With these preliminary statements I pass to the tables. There have been 123 operations performed on 111 patients. There were nine cases of double amputation, and there were three cases of reamputation, all of which will be found in detail in the summary. One case of traumatic secondary of the thigh is not included: the operation was repeated for secondary hæmorrhage not controlled by ligature. And in the last recorded case of double amputation, the only one of both legs, both stumps were reamputated, but the second operation was subsequent to the period at which this record terminates.

Of 123 operations 57 were traumatic primary, 26 traumatic secondary, and 40 pathological. Of the 111 patients operated upon 24 died, or 21.62 per cent. Of the primary there were 51 cases with 11 deaths, or 21.57 per cent.; of the secondary 22 cases with eight deaths, or 36.36 per cent.; and of the pathological 36 cases with five deaths, or 13.88 per cent. There were two cases of double amputations, in which one operation was primary and the other secondary, and both cases recovered. Classing together the operations for injury we have 73 cases with 19 deaths, or 26.03 per cent. The causes of death will be found in the Summary, tabulated both as to the limb amputated and the nature of the operation.

AMPUTATION AT THE SHOULDER-JOINT. TRAUMATIC PRIMARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Method.	Result.	Date of Discharge.
1	M.	13	July 28, 1869.	–	Machinery.	–	Recovered.	Oct. 8, 1869.
2	M.	10	Feb. 28, 1882.	R. Compound fract. arm and exten. laceration.	Cotton mill gear.	Double flap.	Recovered.	April 17, 1882.

Recovered, 2.

AMPUTATION OF THE ARM. TRAUMATIC PRIMARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.		Result.	Date of Discharge or Death.	Remarks.
						Point.	Method.			
1	M.	15	Jan. 26, 1869.	R.	Machinery.	2 — 3	Circular.	Recovered.	March 22, 1869.	–
2	F.	18	Aug. 18, 1869.	R. Torn off 4 in. above elbow.	R. R.	Middle.	Circular.	Recovered.	Oct. 14, 1869.	–

AMPUTATION OF THE ARM. TRAUMATIC PRIMARY. (Concluded.)

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.		Result.	Date of Discharge or Death.	Remarks.
						Point.	Method.			
3	M.	21	Jan. 12, 1870.	L.	Machinery.	2 — 3	Flap.	Recovered.	March 2, 1870.	–
4	M.	30	July 19, 1870.	R.	R. R.	2	Circular.	Recovered.	Aug. 6, 1870.	–
5	M.	15	Sept. 27, 1870.	–	Machinery.	1	Integ. flaps.	Recovered.	Dec. 10, 1870.	Abscess in axilla.
6	M.	74	Oct. 4, 1870.	R.	R. R.	1	A. P. flaps.	Died.	24 hours.	Shock.
7	M.	14	July 31, 1872.	Torn off 1 — 2.	Machinery.	–	–	Recovered.	Sept. 8, 1872.	–
8	M.	75	Sept. 7, 1872.	–	R. R.	–	–	Died.	1½ hours.	Leg amputated, Traumatic Primary, No. 3. Shock.
9	M.	26	Feb. 25, 1873.	–	R. R.	1	A. P. integ. fl.	Recovered.	May 15, 1873.	Erysip. Stump with slough. March 13, 1 in. bone removed.
10	M.	17	June 18, 1874.	L.	R. R.	3	Flap.	Recovered.	Dec. 29, 1874.	Leg amp., Trau. Prim., No. 7. Repeated attacks erysipelas.
11	M.	28	Sept. 17, 1874.	L.	R. R.	2	–	Recovered.	Nov. 23, 1874.	Operat. performed outside by one of the staff, and sent at once to hospital.
12	M.	50	July 27, 1875.	R. Comp. com. fracture.	Machinery.	3	Circular.	Recovered.	Sept. 18, 1875.	–
13	M.	24	Jan. 1, 1877.	L.	R. R.	1	–	Recovered.	March 10, 1877.	–
14	M.	8	Dec. 4, 1879.	L.	R. R.	3	Flap.	Died.	Dec. 17, 1879.	Lacerated wounds both feet. Metatars. Amp. of one. Foot, Traum. Prim., No 3. Sec. hæm. feet. Slough foot and arm. Pyæmia.
15	M.	12	Sept. 27, 1883.	R. Comp. fract. and laceration.	Machinery.	Below surgical neck.	A. P. flaps.	Recovered.	Dec. 4, 1883.	Brachial ligated prior to operation.

Recovered, 12
Died, 3
Total, 15

Cause of death: Shock, 2
Pyæmia, 1
Total, 3

AMPUTATION OF THE ARM. TRAUMATIC SECONDARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.			Result.	Date of Discharge or Death.	Remarks.
						Date.	Point.	Method.			
1	M.	50	Aug. 2, 1882.	L. Comp. fract. f. arm.	Mach'y.	Aug. 15.	3	A. P. flaps.	Died.	Aug. 17, 1882.	Pyæmia.
2	M.	35	Aug. 22, 1882.	R.	R. R.	Aug. 24.	–	–	Recovered.	Nov. 23, 1882.	Amp. left leg, traum. prim. No. 23. Oct. 21st, fell and dislocated stump at shoulder. Attempt at reduct. unsuc.
3	M.	29	Dec. 15, 1882.	R. F. arm crushed.	Mach'y.	Dec. 28.	1 — 2	A. P. flaps.	Recovered.	April 5, 1883.	–

Recovered, 2
Died, 1
Total, 3

Cause of death: Pyæmia, 1.

AMPUTATION OF THE ARM. PATHOLOGICAL.

No.	Sex.	Age.	Date of Admission.	Nature of Disease.	Operation.			Result.	Date of Discharge.	Remarks.
					Date.	Point.	Method.			
1	M.	30	Feb. 23, 1882.	R. Necrosis. Prev. resect.	April 20.	1	–	Recovered.	June 8, 1882.	Resection performed March 7th.

Recovered, 1.

AMPUTATION OF THE FORE-ARM. TRAUMATIC PRIMARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.		Result.	Date of Discharge or Death.	Remarks.
						Point.	Method.			
1	M.	30	July 27, 1869.	–	Machinery.	3	Circular.	Recovered.	Aug. 25, 1869.	–
2	M.	17	May 31, 1871.	–	Machinery.	1 — 2	Circular.	Recovered.	July 20, 1871.	–
3	M.	15	Oct. 31, 1872.	–	Machinery.	2	–	Recovered.	Dec. 13, 1872.	–
4	M.	12	May 12, 1874.	R.	Machinery.	2	Flap.	Recovered.	June 22, 1874.	–
5	M.	29	Jan. 22, 1882.	L.	Machinery, steamboat.	3	Integ. flap.	Recovered.	Feb. 24, 1882.	–
6	M.	28	Nov. 7, 1882.	L.	R. R.	2	–	Recovered.	Dec. 30, 1882.	–
7	M.	14	July 12, 1883.	Hand lacerated.	Caught in cog.	Just above wrist.	–	Died.	July 13, 1883.	Profuse hæmorrhage at time of accident. Shock.

Recovered, 6
Died, 1
Total, 7

Cause of death: Shock and hæmorrhage, 1.

AMPUTATION OF THE FORE-ARM. TRAUMATIC SECONDARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.			Result.	Date of Discharge.	Remarks.
						Date.	Point.	Method.			
1	M.	31	Dec. 21, 1876.	Lacer. wound.	Machinery.	Jan. 10, '77.	3	Circular.	Recov.	March 3, 1877.	Sec. hæm. Rad. ligated January 29th.
2	M.	30	Jan. 28, 1882.	Comp. dislocat. wrist.	Blow, heav. timber.	March 14.	3	Integ. fl.	Recov.	April 22, 1882.	Dislocation reduced prior to admission.
3	F.	43	March 19, 1883.	R. Necros. carpus.	Blow.	March 23.	3	A. P. integ. fl.	Recov.	May 29, 1883.	Injury five weeks prior to admission.
4	M.	21	April 4, 1883.	L. comp. fracture.	Machinery.	April 23.	1	A. P. integ. fl.	Recov.	June 12, 1883.	

Recovered, 4 cases.

AMPUTATION OF THE FORE-ARM. PATHOLOGICAL.

No.	Sex.	Age.	Date of Admission.	Nature of Disease.	Operation.			Result.	[Date of Discharge.]	Remarks.
					Date.	Point.	Method.			
1	M.	41	Nov. 15, 1869.	L. Necrosis. Comp. fract. Resect.	March 5, 1870.	2	Circular.	Recovered.	April 13, 1870.	Resection, Nov. 20, 1869.

Recovered, 1.

AMPUTATION OF THE THIGH. TRAUMATIC PRIMARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.		Result.	Date of Discharge or Death.	Remarks.
						Point.	Method.			
1	M.	19	Feb. 21, 1879.	R. leg torn off bel. knee. Joint opened.	R. R.	2 — 3	Long A. integ. flap.	Died.	Three hours.	Accident two hours before admission. Shock.
2	M.	21	June 23, 1880.	L. Compound com. fract. leg.	R. R.	2	Oval integ. flaps.	Recovered.	July 24, 1880.	Accident 5 hrs. before admission. Op. 14 hrs. after admis.
3	M.	27	Sept. 9, 1881.	R. Compound com. fract. leg.	R. R.	2	Flap.	Recovered.	Nov. 23, 1881.	Commi. fract. l. ankle. Dead bone removed Nov. 9th. Discharged nearly well.
4	M.	14	Oct. 24, 1882.	R. Compound fract. knee.	Elevator.	2	Circular.	Recovered.	March 24, 1883.	Fracture left femur.

Recovered, 3
Died, 1
Total, 4

Cause of death: Shock, 1.

AMPUTATION OF THE THIGH. TRAUMATIC SECONDARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.			Result.	Date of Discharge or Death.	Remarks.
						Date.	Point.	Method.			
1	M.	47	Jan. 14, 1870.	Lacerat. wound leg.	Blasting.	Feb. 19.	2	Long A. integ fl.	Died.	Feb. 19, 1870.	Attempt to save limb. D. six hours after operation. Shock.
2	M.	16	Nov. 21, 1872.	R. Necros. Ununited fract.	Machinery.	Dec. 18.	2	Anterior flap.	Recov.	March 8, 1873.	Accident three months before admission. Natural bone-setter. L. united with curvature and six inches shortening.
3	M.	29	July 5, 1874.	L. Inc. wound knee-joint.	Stepped upon scythe.	July 27.	2 — 3	Flap.	Died.	Aug. 2, 1874.	Accident three days before entrance. Pyæmia.
4	M.	47	March 2, 1878.	L. Fract. thigh. Rupt. popliteal art. Gangrene.	Run over.	March 27.	2	Lat. integ. flap.	Died.	July 12, 1878.	Fracture left humerus. Two days after admission gangrene developed. June 17th, stump nearly healed. Erysipelas.
5	M.	35	Dec. 14, 1882.	Compound fracture leg.	Heavy timber fell upon him.	Dec. 23.	3	Ant. post. flap.	Died.	Jan. 23, 1883.	Repeated sec. hæm. Femoral tied, Jan. 11th, lower third, followed by immediate reamputation. Pyæmia.
6	M.	8	July 24, 1883.	Fracture thigh. Separation of epiph. Gangrene.	Jump from a wagon.	Aug. 4.	3	Ant. post. fl. Transfix.	Recov.	Jan. 2, 1884.	Gangrene developed two days after admission. Dead bone removed November 24th.

Recovered, 2
Died, 4
Total, 6

Cause of death: Pyæmia, 2
Shock, 1
Erysipelas, 1
Total, 4

AMPUTATION OF THE THIGH. PATHOLOGICAL.

No.	Sex.	Age.	Date of Admission.	Nature of Disease.	Operation. Date.	Point.	Method.	Result.	Date of Discharge or Death.	Remarks.
1	M.	24	Nov. 27, 1869.	L. Knee. Painful stump.	Nov. 27.	2 — 3	Long A. integ. fl.	Recov.	May 3, 1870.	See Knee, Patholog., No. 1. 1½ inch nerve removed.
2	M.	33	Aug. 30, 1870.	Strum. disease knee-joint.	Oct. 25.	1	Long A. flap.	Recov.	Dec. 26, 1870.	Bone eburnized. Disease existed sixteen years.
3	M.	29	Sept. 22, 1870.	Strum. disease knee-joint.	Sept. 25.	2	Integ. flaps.	Died.	Oct. 13, 1870.	Secondary hæmorrhage. Pyæmia.
4	M.	41	Jan. 26, 1872.	Strum. disease knee-joint.	March 16.	2	–	Died.	March 17, 1872.	Shock, twenty hours. Joint aspirated February 2d.
5	M.	17	Oct. 16, 1872.	Necrosis.	Oct. 16.	2	Ant. flap.	Recov.	Nov. 16, 1872.	–
6	M.	16	April 27, 1876.	Medull. tumor leg.	April 27.	3	Flap.	Recov.	June 29, 1876.	–
7	M.	48	March 22, 1880.	Infl. knee. Necros. femur.	March 25.	3	Short ant., long post. integ. flaps.	Recov.	June 25, 1880.	Fell from yard-arm three years previous. Stump painful, not entirely healed.
8	M.	29	Jan. 9, 1882.	Necrosis.	Jan. 28.	2 — 3	Lat. integ. flap.	Recov.	March 15, 1882.	Fistulous track extended eight inches above point of section.
9	F.	28	Oct. 13, 1882.	Necrosis.	Dec. 28.	3	Ant. post. flap.	Recov.	April 12, 1883.	For two weeks after operation delirium, vomiting, diarrhœa.
10	M.	2	Nov. 8, 1882.	Infl. knee-joint. Necrosis.	Feb. 10, 1883.	3	Long ant., short post. integ. flap.	Recov.	March 19, 1883.	Injury caused by blow.
11	M.	42	Dec. 21, 1882.	Dis. knee-joint from injury.	Jan. 10, 1883.	3	A. P. integ. flaps.	Recov.	March 14, 1883.	Injury nine years previous. Patholog. dislocat. posterior.
12	M.	21	March 9, 1883.	R. Knee. Sup. arthritis. Injury.	March 20.	3	A. integ. post. musc. flap.	Recov.	May 21, 1883.	Injury four years prior to admission.

Recovered, 10.
Died, 2
Total, 12

Cause of death: Pyæmia, 1
Shock, 1
Total, 2

AMPUTATION AT THE KNEE-JOINT. PATHOLOGICAL.

No.	Sex.	Age.	Date of Admission.	Nature of Disease.	Operation. Date.	Method.	Result.	Date of Discharge or Death.	Remarks.
1	M.	24	Feb. 23, 1869.	L. Painful stump.	Feb. 23.	Long ant., short pos. flaps. Patella left.	Recovered.	June 10, 1869.	Leg amputated two years before admission. When discharged stump entirely well. Reamputated. See Thigh, Path. No. 1.
2	M.	40	Aug. 3, 1876.	Necrosis.	Aug. 12.	Post. flap.	Died.	Aug. 12, 1876.	Shock. Three hours.
3	F.	28	Aug. 19, 1881.	Painful stump.	Jan. 28, 1882.	Smith's.	Recovered.	March 18, 1882.	See Leg, Traum. Prim., No. 20.

Recovered, 2
Died, 1
Total, 3

Reamputation, 1

Cause of death: Shock, 1

AMPUTATION OF THE LEG. TRAUMATIC PRIMARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation. Point.	Method.	Result.	Date of Discharge or Death.	Remarks.
1	M.	30	June 15, 1871.	L.	R. R.	2 — 3	Flap.	Recov.	Aug. 24, 1871.	Fracture right leg.
2	M.	38	July 1, 1871.	–	Machinery.	2 — 3	Flap.	Died.	July 16, 1871.	Pyæmia.
3	M.	75	Sept. 7, 1872.	–	R. R.	–	–	Died.	Sept. 7, 1872.	Shock, 1½ hours. Arm amputated. See Traum. Prim., No. 8.
4	M.	27	April 20, 1873.	–	R. R.	1	Lat. flaps.	Died.	April 29, 1873.	Exhaustion.
5	M.	51	June 28, 1873.	L.	R. R.	–	Ant. post. integ. flaps.	Died.	July 4, 1873.	Pneumonia. Comp. fract. l. olecranon. Amputat R. metatars. See Foot, Traum. Prim., No. 1.
6	M.	26	Sept. 4, 1873.	L.	R. R.	1	Post. flap.	Died.	Sept. 4, 1873.	Shock, ten hours. R. foot crushed. Lacerated wound back, exposing spin. processes lumb. verteb. & innom. bone.
7	M.	17	June 18, 1874.	R.	R. R.	3	Circular.	Recov.	Dec. 29, 1874.	Arm amputated. See Traum. Prim., No. 10.
8	M.	52	Aug. 4, 1875.	L.	R. R.	–	Integ. flaps.	Died.	Aug. 31, 1875.	Comp. commin fract. R. foot. Fract. R. leg. Septicæmia.
9	M.	35	March 15, 1876.	R.	R. R.	3	Integ. flaps.	Recov.	May 21, 1876.	–
10	M.	39	Feb. 4, 1878.	R. comp. com. fracture.	Machinery.	1	Lat. integ. flaps	Recov.	May 11, 1878.	First use of Lister's method.
11	M.	33	June 2, 1879.	R. Foot crush'd.	R. R.	1 — 2	Integ. flaps.	Recov.	Nov. 1, 1879.	Dead bone removed Sept. 5th.
12	M.	37	Aug. 1, 1879.	R. Leg torn off 2	Caught in tow rope.	1	Ant. post. flap.	Recov.	Sept. 11, 1879.	–
13	M.	20	Dec. 6, 1879.	L. Leg crush'd.	R. R.	1	Long ant. flap.	Recov.	March 29, 1880.	Feb. 21, 1880, orchitis R. testicle. Suppuration.
14	M.	31	April 30, 1880.	R. Comp com. fracture.	Falling of a tree.	1	Double flap.	Recov.	July 1, 1880.	–
15	M.	43	July 3, 1880.	R. Comp. com. fracture.	Thrown from a wagon.	1 — 2	Ant. integ. pos. ov. musc. flap.	Died.	July 15, 1880.	Primary hæmorrhage. Exhaustion.
16	M.	22	May 5, 1881.	R. Comp com. fracture.	R. R.	1 — 2	Flap.	Recov.	Aug. 6, 1881.	May 24, 1½ inches bone removed. Sec. hæmorrhage

AMPUTATION OF THE LEG. TRAUMATIC PRIMARY. (Concluded.)

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.		Result.	Date of Discharge or Death.	Remarks.
						Point.	Method.			
17	M.	42	June 2, 1881.	R. Comp. com. fracture.	Crush'd by iron.	2 — 3	Ant. pos. integ. flaps.	Recov.	Aug. 17, 1881.	June 24, half inch fibula removed.
18	M.	34	July 12, 1881.	L. Lacera. foot and ankle.	R. R.	2 — 3	Ant. pos. integ. flaps.	Recov.	Sept. 10, 1881.	Intense neural. pains in stump, with delirium. Aug. 10, half inch bone removed.
19	F.	22	July 20, 1881.	R.	R. R.	3	Flap.	Recov.	Oct. 27, 1881.	–
20	F.	28	Aug. 19, 1881.	R Com. dislоc. ankle.	Jump from 2d story.	2 — 3	Flap.	Recov.	March 13, 1882.	Reamputation See Amp. Knee-joint, Path., No. 3.
21	M.	12	Oct. 12, 1881.	R. Foot crush'd	R. R.	–	Flap.	Recov.	Nov. 23, 1881.	–
22	M.	28	June 15, 1882.	L. Leg torn off.	R. R.	2	Smith's.	Recov.	Sept. 8, 1882.	Comp. fract. right tarsus. See. amp. See Leg traum. sec. No. 5.
23	M.	35	Aug. 22, 1882.	L.	R. R.	–	–	Recov.	Nov. 23, 1882.	Arm amp. Aug. 24. See Traum. Sec., No. 2.
24	M.	37	Oct. 19, 1882.	R. Comp. com. fracture.	Jump from window.	–	–	Recov.	Jan. 18, 1883.	–
25	M.	48	Nov. 21, 1882.	L.	Jump from building.	2	–	Recov.	Jan. 26, 1883.	

Recovered, 18
Died, 7
Total, 25

Reamputation, 1

Cause of death: Shock, 2
Exhaustion, 2
Pyæmia, 1
Septicæmia, 1
Pneumonia, 1
Total, 7

AMPUTATION OF THE LEG. TRAUMATIC SECONDARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation.			Result.	Date of Discharge or Death.	Remarks.
						Date.	Point.	Method.			
1	M.	21	June 16, 1874.	R. Cont. wound toe.	–	Aug. 7.	3	–	Recov.	Dec. 18, 1874.	Toe amputated, July 3. Cellulitis.
2	M.	42	April 11, 1878.	R. Comp. frac. tib. & fib.	–	July 3.	1 — 2	L. A. sh. pos. flap.	Died.	July 25, 1878.	Septicæmia.
3	M.	40	Jan. 2, 1880.	L. Leg and foot crushed.	Wardrobe fell on him.	Jan. 5.	1	L. A. sh. pos. integ. flaps.	Died.	Jan. 15, 1880.	Gangrene developed on 3d. Refused operation. Died from exhaustion.
4	M.	40	Sept. 6, 1881.	R. Leg. L. metatars. crushed.	Heav. stone.	Sept. 8.	2	A. l. pos. mus. fl.	Recov.	Nov. 3, 1881.	Amputat. L. metatars. See Foot, Traumat. Second., No. 2.
5	M.	28	June 15, 1882.	R. Comp. frac. tarsus.	R. R.	July 14.	3	Teale's.	Recov.	Sept. 8, 1882.	Knee became flexed. Tenotomy, Aug. 12. Left leg torn off. See Leg, Traum. Prim., No. 22.
6	M.	38	Aug. 29, 1882.	R. Comp. comin. fract.	Caught by rope.	Sept. 6.	2	–	Recov.	Dec. 4, 1882.	–
7	M.	12	July 7, 1883.	Comp. commin. fract. ankle.	Jump from 3d story.	Sept. 5.	2 — 3	Teale's.	Recov.	Oct. 26, 1883.	Eloped.
8	M.	–	July 24, 1883.	R. Vicious union comp. fract.	–	Aug. 15.	1 — 2	A. post. integ. fl.	Recov.	Oct. 19, 1883.	–
9	M.	73	Aug. 2, 1883.	R. Comp. frac. tib.	Kick of horse.	Sept. 3.	1	A. post. flap.	Died.	Sept. 11, 1883.	Septicæmia.
10	M.	17	Sept. 23, 1883.	Both legs. comp. frac.	R. R.	Sept. 26.	3	A. pos. fl.	Recov.	Feb. 7, 1884.	Stumps sloughed.
11											

Recovered, 8
Died, 3
Total, 11

Cause of death: Septicæmia, 2
Exhaustion, 1
Total, 3

AMPUTATION OF THE LEG. PATHOLOGICAL.

No.	Sex.	Age.	Date of Admission.	Nature of Disease.	Operation.			Result.	Date of Discharge or Death.	Remarks.
					Date.	Point.	Method.			
1	M.	20	Jan. 26, 1869.	L. Ulcer.	Jan. 30.	3	Circular.	Recov.	–	Reamputation.
2					May 19.	1 — 2	Circular.	Recov.	Sept. 25, 1869.	Stump not healed.
3	M.	43	May 5, 1869.	L. Painful stump.	May 5.	2	Circular.	Recov.	June 11, 1869.	Amputated five years previous.
4	M.	42	July 21, 1869.	L. Syphilit. ulcer.	Dec. 29.	2 — 3	Integ. flaps.	Recov.	Mar. 12, 1870.	–
5	M.	32	Oct. 25, 1869.	R. Necrosis.	Oct. 27.	2 — 3	Flap.	Recov.	Feb. 12, 1870.	–
6	F.	71	Feb. 3, 1871.	R. Epithelioma foot.	Feb. 3.	1 — 2	Circular.	Recov.	Mar. 29, 1871.	–
7	M.	42	March 8, 1871.	Necrosis.	June 8.	2 — 3	Flap.	Recov.	Aug. 28, 1871.	–
8	M.	40	Sept. 1, 1871.	Ulcer.	Sept. 26.	1	Flap.	Died.	Oct. 31, 1871.	Pyæmia.
9	M.	16	May 9, 1872.	Necrosis.	May 25.	3	–	Recov.	June 17, 1872.	–
10	F.	11	Oct. 2, 1872.	Necrosis.	Feb. 12, 1873.	3	–	Recov.	June 23, 1873.	May 30, ½ in. bone removed.
11	M.	57	May 20, 1873.	L. Scrof. ulcer, foot.	June 16.	3	A. pos. int. fl.	Recov.	Sept. 12, 1873.	–
12	F.	35	May 28, 1873.	L. Painful stump.	June 13.	2	–	Recov.	Aug. 14, 1873.	Original amputation 12 years previous. R. foot also amputated. See Foot, Path., No. 2.
13	M.	60	Jan. 14, 1876.	R. Necrosis.	Feb. 2.	2	Circular.	Recov.	Mar. 28, 1876.	–
14	M.	24	July 16, 1876.	L. Necrosis.	Sept. 13.	3	Flaps.	Recov.	Oct. 28, 1876.	–
15	M.	38	May 4, 1878.	L. Necrosis.	May 11.	1	A. post. flaps.	Recov.	June 28, 1878.	Injured in the war. Resection of tibia in the hosp. Jan. '77.
16	M.	12	Nov. 4, 1878.	L. Necrosis ankle.	Nov. 11.	2 — 3	A. post. flaps.	Recov.	Dec. 12, 1878.	–
17	M.	34	Oct. 26, 1880.	R. Chron. arthrit. ank.	Jan. 27, 1881.	3	Circular.	Recov.	April 1, 1881.	–

AMPUTATION OF THE LEG. PATHOLOGICAL. (Concluded.)

No.	Sex.	Age.	Date of Admission.	Nature of Disease.	Operation. Date.	Operation. Point.	Operation. Method.	Result.	Date of Discharge or Death.	Remarks.
18	M.	42	May 31, 1881.	R. Necrosis ankle.	June 2.	2 — 3	A. post. flaps.	Recov.	Aug. 8, 1881.	
19	M.	3	April 13, 1882.	R. Necrosis ankle.	May 5.	3	Smiths.	Recov.	July 19, 1882.	
20	F.	57	Sept. 5, 1883.	L. Gangrene foot.	Sept. 6.	1	A. post. flaps.	Died.	Sept. 11, 1883.	Exhaustion.

Recovered, 18
Died, 2
Total, 20

Reamputation, 1.

Cause of death: Pyæmia, 1
Exhaustion, 1
Total, 2

AMPUTATION OF THE FOOT. TRAUMATIC PRIMARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation. Method.	Result.	Date of Discharge or Death.	Remarks.
1	M.	51	June 28, 1873.	R. Met. crushed.	R. R.	Lisfranc.	Died.	July 4, 1873.	Pneum. Amp. L. leg. See Traumat. Prim., No. 5.
2	M.	27	April 2, 1878.	R. Comp. fract.	Fall of a stone.	Chopart.	Recov.	June 19, 1878.	
3	M.	8	Dec. 4, 1879.	Lacer. wound.	R. R.	Metatarsal.	Died.	Dec. 17, 1879.	Pyæmia. Amp. arm. See Traumat. Prim., No. 14.
4	M.	7	April 6, 1880.	L. Lacer. wound.	R. R.	Lisfranc.	Recov.	Aug. 28, 1880.	Comp. fract. skull. Exfoliation of os frontis.

Recovered, 2
Died, 2
Total, 4

Cause of death: Pneumonia, 1
Pyæmia, 1
Total, 2

AMPUTATION OF THE FOOT. TRAUMATIC SECONDARY.

No.	Sex.	Age.	Date of Admission.	Nature of Injury.	Cause.	Operation. Date.	Operation. Method.	Result.	Date of Discharge or Death.	Remarks.
1	M.	-	Dec. 13, 1870.	Crushed toes, gan.	Fall of box.	Dec. 25.	Metatars.	Recov.	Mar. 8, 1871.	-
2	M.	40	Sept. 6, 1881.	L. Metat. crushed.	Fall of stone.	Sept. 28.	Par. meta.	Recov.	Nov. 3, 1881.	Amp. R. leg. See Traum. Sec. No. 4.

Recovered, 2.

AMPUTATION OF THE FOOT. PATHOLOGICAL.

No.	Sex.	Age.	Date of Admission.	Disease.	Operation. Date.	Operation. Method.	Result.	Date of Discharge.	Remarks.
1	M.	42	Jan. 11, 1872.	Necrosis.	Jan. 13.	Chopart.	Recov.	Jan. 29, 1872.	-
2	F.	35	May 28, 1873.	R. Painful stump.	May 30.	-	Recov.	Aug. 14, 1873.	Original amputation 12 years previous. L. leg also amputated. See Leg Path. No. 12.
3	M.	37	Jan. 18, 1881.	R. Malign. tumor of stump.	Jan. 24.	Syme.	Recov.	Mar. 27, 1881.	Toes amputated 17 years previous. Growth developed 2 years before admission.

Recovered, 3.

SUMMARIES.

Cases	111
Double amputations	9
Reamputations	3
Operations	123

OPERATIONS.

	Traum. Prim. No.	Recov.	Died.	Traum. Second. No.	Recov.	Died.	Pathological. No.	Recov.	Died.	Total. No.	Recov.	Died.
Shoulder	2	2	-	-	-	-	-	-	-	2	2	-
Arm	15	12	3	3	2	1	1	1	-	19	15	4
Fore-arm	7	6	1	4	4	-	1	1	-	12	11	1
Thigh	4	3	1	6	2	4	12	10	2	22	15	7
Knee	-	-	-	-	-	-	3	2	1	3	2	1
Leg	25	18	7	11	8	3	20	18	2	56	44	12
Foot	4	2	2	2	2	-	3	3	-	9	7	2
Total	57	43	14	26	18	8	40	35	5	123	96	27

CASES.

	Traum. Prim.			Traum. Second.			Pathological.			Total.		
	No.	Recov.	Died.	No.	Recov.	Died.	No.	Recov.	Died.	No.	Recov.	Died.
Shoulder	2	2	–	–	–	–	–	–	–	2	2	–
Arm	12	11	1	2	1	1	1	1	–	15	13	2
Fore-arm	7	6	1	4	4	–	1	1	–	12	11	1
Thigh	4	3	1	6	2	4	11	9	2	21	14	7
Knee	–	–	–	–	–	–	2	1	1	2	1	1
Leg	20	15	5	7	4	3	18	16	2	45	35	10
Foot	2	2	–	1	1	–	2	2	–	5	5	–
Single cases	47	39	8	20	12	8	35	30	5	102	81	21
Double	4	1	3	2	2	–	1	1	–	7	4	3
	51	40	11	22	14	8	36	31	5	109	85	24
	2 cases T. P. and T. S. recovered.									2	2	–
Total										111	87	24

DOUBLE AMPUTATIONS.

TRAUMATIC PRIMARY.

	Recovered.	Died.
2 cases arm and leg	1	1
1 case arm and foot	–	1
1 case leg and foot	–	1

TRAUMATIC SECONDARY.

1 case both legs	1	–
1 case leg and foot	1	–

TRAUMATIC PRIMARY AND SECONDARY.

1 case leg, traum. prim., leg, traum. sec.	1	–
1 case leg, traum. prim., arm, traum. sec.	1	–

PATHOLOGICAL.

1 case leg and foot	1	–
9 cases.	6	3

REAMPUTATIONS.

1 case leg, pathological.,
1 case leg, traum. prim. and knee, path.
1 case knee, path., and thigh path.

3 cases. Recovered.

MORTALITY.

	Cases.		Cases.
Arm, traum. prim., shock	2	Leg, traum. prim., shock	1
Arm, traum. prim., pyæmia	1	Leg, traum prim., pyæmia	1
Arm, traum. sec., pyæmia	1	Leg, traum. prim., septicæmia	1
	4	Leg, traum. prim., pneumonia	1
		Leg, traum. sec., septicæmia	2
		Leg, traum. sec., exhaustion	1
Fore-arm, traum. prim., shock	1	Leg, path., pyæmia	1
		Leg, path., exhaustion	1
Thigh, traum. prim., shock	1		11
Thigh, traum. sec., pyæmia	2		
Thigh, traum. sec., shock	1		
Thigh, traum. sec., erysipelas	1		
Thigh, path., pyæmia	1		
Thigh, path., shock	1		
	7		
Knee, path., shock	1		
Leg, traum. prim., exhaustion	2		

RECAPITULATION.

Shock	8
Pyæmia	7
Exhaustion	4
Septicæmia	3
Pneumonia	1
Erysipelas	1
Total	24

			Death-rate.
Primary	51 cases.	11 deaths.	21.57 per cent.
Secondary	22 cases.	8 deaths.	36.36 per cent.
Primary and Secondary	2 cases.	–	—
	75 cases.	19 deaths.	26.03 per cent.
Pathological	36 cases.	5 deaths.	13.88 per cent.
Total	111 cases.	24 deaths.	21.62 per cent.

Although these numbers are small it may not be uninteresting to compare them with the statistics given by Dr. Ashhurst in the International Encyclopædia of Surgery, and by Professor Agnew in his work on Surgery: —

ASHHURST.

	Death-rate.
Total, 6448 cases	32.9 per cent.
Injury, 3024 cases	39.8 per cent.
Disease, 3424 cases	26.8 per cent.

AGNEW.

5956 cases	32.42 per cent.
Primary, 2572 cases	35.81 per cent.
Secondary, 781 cases	50.19 per cent.
2603 cases	23.74 per cent.

Dr. Agnew also gives the mortality of all amputations at the Pennsylvania Hospital for the years 1870–1878 as 21.43 per cent. in 252 cases. It is more than probable that the next ten years will witness in all well-managed hospitals a decided diminution in the death-rate following amputation.

PROVIDENCE, *April* 11, 1884.

TWO CASES OF GENERAL CHRONIC PROCTITIS

CAUSED BY RETROVERSION OF THE UTERUS WITH PROLAPSE OF RIGHT OVARY IN THE FIRST CASE, BY SIMPLE RETROVERSION OF THE UTERUS WITH CHRONIC ENDOMETRITIS IN THE SECOND CASE.

BY F. W. JOHNSON, M. D.,
Surgeon, Out Patients, Free Hospital for Women.

INFLAMMATION of the rectum involving the mucous, submucous, and muscular layers of the gut is of quite frequent occurrence in women suffering from some acute or chronic affection of the ovaries, tubes, uterus, or vagina. The onset of the attack is not marked. According to my experience, limited to six cases, the inflammation does not begin as an acute proctitis which gradually subsides into the chronic form, but from a feeling of burning and weight in the rectum with perhaps some backache, frequent micturition, watery stools soon after rising in the morning, followed by a feeling as if the rectum had not been emptied, it gradually increases until the patient is driven to the physician complaining of loose muco-purulent dejections which are sometimes mixed with blood, tenesmus, frequent and painful micturition, sometimes retention, con-

stant pain and burning in the rectum, leucorrhœa, dysmenorrhœa, acute attacks of indigestion, accompanied at times, as in Case No. II., with stercoraceous vomiting, and inability to stand or walk with any comfort. There is loss of flesh, restless nights, and general impairment of health. This condition, varying in severity, may last for a long time, but eventually ends, if left to itself, in infiltration and thickening of the rectal wall. It may end in ulceration involving the whole thickness of the mucous membrane. It may involve the mouths of the tubular follicles causing ulceration and perforation of the bowel. It may cause an abscess which may result in fistula, and it is a frequent cause of stricture. Very little has been written on general or localized chronic proctitis occurring secondarily to some affection of the uterus or its appendages. It was only in the work of Charles B. Kelsey that I was able to find anything satisfactory on the subject.

CASE I. Mrs. W., twenty-seven, married, born in Boston of German parents. Mother insane. Menstruation began at thirteen. Always regular every four weeks until seven years ago, since which time has been irregular, going five, six, and seven weeks without menstruating. During the past seven years has had dysmenorrhœa. The pain, confined to the ovarian regions, begins six to eight days before the flow, and lasts during the first day. Flows six days and saturates seven to eight napkins. No clots. Has never been pregnant. Frequent pain and almost constant feeling of pressure at the top of the head. Constant pain in sacral region, increased by walking or standing. Constant burning and feeling of pressure in the rectum. Leucorrhœa white and thin in character. Appetite poor. All kinds of food cause distress. The right ovary was prolapsed into Douglas's pouch; was enlarged to the size of an English walnut, and was very sensitive. The uterus was retroverted, sensitive at the fundus, and was prolapsed in the first degree. The rectal mucous membrane was much thickened, of a dark-red, almost purple color, and covered with an abundant muco-purulent secretion. Sphincter ani unyielding, no eversion of rectal mucous membrane, and no dilatation of the hæmorrhoidal vessels.

In this case the evacuations numbered ten to twelve each day and consisted of muco-purulent material, at times mixed with fæcal matter, and always attended with more or less pain. When fæcal matter was present the stools contained blood. Each evacuation was attended with tenesmus and sharp pains through the pelvis. There was frequent and painful micturition. Most of the above symptoms, though less severe, had been present for six months. During this time she had used suppositories containing iodoform, tannin, and morphia, enemas of starch and laudanum, and various drugs by the mouth. She said the iodoform did the most good, but she would not continue its use on account of the offensive odor it gave to the evacuations. After my examination she was put on the following course of treatment: Every fifth night she took of hydrarg. cum creta eight grains, followed in the morning by a saline cathartic. Three times a day two quarts of hot water as hot as could be borne (she was able in ten days to use water at a temperature of 140° F.) were injected into the rectum through a vaginal nozzle, while reclining on the left side with a thick pillow under the hips. This position was insisted upon in order that the rectum might be ballooned out, and as much as possible of its mucous membrane brought in contact with the hot water. The same position was maintained for twenty minutes after the injection was completed. The diet consisted principally of milk with stale bread. All vegetables, except lettuce, tea, coffee, beer, and wine were forbidden. In two weeks, time great improvement took place. The sensitiveness of the right ovary and fundus uteri had gone, and I was able to replace them and keep them where they belonged by a Thomas' retroflexion pessary, the bulb of which was made large enough to fill the posterior cul de sac, and thus prevent the ovary from prolapsing. Improvement was rapid, with now and then a drawback due to her own carelessness. On one occasion she was thrown down while skating, and as a result the pessary was forced part way outside the vagina, the fundus flexed over the posterior bar, and the right ovary again prolapsed. It was two weeks before the sensitiveness diminished enough to allow the replacing of the pessary.

During the two weeks before the pessary was adjusted the rectal symptoms improved very much, but after the pessary was put in place the improvement in the rectal symptoms was simply astonishing. The evacuations were soon reduced to two each day. The tenesmus, pains throughout the pelvis, dysmenorrhœa, dyspepsia, and painful micturition soon departed. It is now three months since the treatment was begun, and she considers herself perfectly well.

CASE II. Miss D., twenty-five, single, born in this State, family history phthisical. A few years ago she went through a long and hard siege of neurasthenia. She was one of those fat, anæmic, flabby individuals, who so often fall victims to nervous exhaustion.

The rectal symptoms were heat and burning, sharp, shooting pains, frequent and, at times, painful evacuations, containing blood and mucus, and backache. There was no tenesmus. All these symptoms were worse during menstruation. Frequent attacks of indigestion at menstrual periods, accompanied, as I mentioned above, with stercoraceous vomiting, requiring morphine for its relief. This condition had lasted for three months. Menstruation first appeared at twelve. Menstruates each twenty-five to thirty-one days. Flows seven days. Uses fourteen napkins, and saturates seven to eight. Dysmenorrhœa during the third and fourth days, the pain being in the lower part of the abdomen in front, and in the right ovarian region, confining her to bed. Frequent dizziness. Almost constant pain in right ovarian region, which is increased on walking. Constant bearing down when standing. Persistent vaginal discharge; slight in quantity, thick, and brownish-white. Frequent and painful micturition. Appetite poor. Digestion poor. Vagina large and relaxed. Uterus low down in the pelvis, retroverted and enlarged throughout, with a cavity measuring three inches. Cervix rested on the floor of the pelvis, and admitted index finger to internal os. External os eroded. Secretion from cervix muco-purulent, and of a brown color. Internal os and fundus uteri very sensitive. She was put on the same course of treatment as the other patient, except that she was given one fiftieth of a grain of valerianate of strychnia and one fiftieth of a grain of arsenious acid three times a day. She began to improve from the first, and in one month's time a Thomas' retroflexion pessary was adjusted, and the improvement has been uninterrupted.

How long it will take to cure the chronic endometritis with the attending areolar hyperplasia, which I

consider to be at the bottom of the trouble, it is very difficult to say. In Case I. my theory is that retroversion took place about seven years ago, accompanied with ovarian disturbance, and these were the cause of the dysmenorrhœa; finally the right ovary prolapsed into Douglas's pouch, and as a consequence rectal trouble was set up. In Case II. the chronic endometritis produced areolar hyperplasia; the uterine ligaments being inadequate to support the enlarged and heavy uterus, retroversion ensued; with the retroversion ovarian disturbance was set up, and as a result dysmenorrhœa and proctitis were developed.

The subject of Case I. is able to do her own housework and keep her husband's books, while before she had treatment she could not be on her feet long enough to get breakfast. Menstruation is still irregular, but it comes on without any pain; in fact, the appearance of the flow is the first indication she has that she is unwell.



AMPUTATIONS AND ARTIFICIAL LEGS.

BY D. DE FORREST DOUGLASS, SPRINGFIELD, MASS.

Manufacturers are constantly called upon to make and adjust artificial legs to stumps where amputation was performed by the "rules" taught in works on surgery previous to the modern invention and great improvements in the construction and adjustment of artificial legs.

The two *professions* should coöperate for the welfare of the patient, where so much is depending upon the point of amputation. It should be the leading thought with the medical profession not only how skillfully can it be performed, but how well the patient can be fitted for the duties and burdens of life, how well the chasm between the natural and artificial can be bridged, how well the adjustment be made where the natural ends and the artificial begins.

The absolute "rule" laid down in the works on surgery — in amputations always to save as much as possible — has had and passed its day of usefulness. It had its origin in the earliest days of surgery, when an amputation was attended with much greater risk of life than at the present time with such great improvements in the practice of the profession.

Previous to the invention and application of artificial legs the loss of a member, or any part of it, was looked upon by the patient as a great affliction, and he enjoined upon the surgeon to save as much as possible, as he feared both the result of the amputation and physical appearance. It was a natural and spontaneous feeling, the growth of surrounding circumstances.

While it may or may not be correct that the longer the stump the less liable to fatal results, there are other considerations which should have weight and influence with surgeons. If the saving of a life is desirable, life should be desirable after it is saved. If through the great kindness and zeal of the surgeon he has saved the life of his patient, and has at the same time entailed upon him a condition preventing him from the enjoyment of the full or partial duties of life, he has saved it, but full of bitterness.

An experience of more than thirty years with patients who have submitted to amputation has shown this important fact, that the last and most absorbing thought previous to the operation would find expression in, "Doctor, give me the very best stump to wear an artificial leg," showing life a secondary consideration unless made desirable.

I would, therefore, suggest, as giving the best results to the patient, not only immediate but during the subsequent time the artificial must coöperate with the natural member, first, never to amputate through the joint. In these cases the stumps are almost invariably thinly covered at the end; from necessity, the tissues not being abundant, the circulation is feeble, vitality at the extreme end much reduced, and the liability to excoriation is great. The power in using an artificial leg is reduced in the same ratio that the stump is enfeebled or sensitive, and the value and usefulness of the leg enhanced the more nearly we approach the right point of amputation.

It is impossible, in amputations at the joint, to construct an artificial appliance that will so well supply the loss, symmetrically or in durability, as in amputations in the continuity, and never is it so satisfactory to the patient.

Artificial legs are fitted to such amputations because they are presented for treatment, and the patient has walked well. But this proves nothing. Compare these with leg or thigh amputations after two or three years' experience, and the result will be quite different from what would appear at first. Many cases result in a secondary amputation.

We frequently meet stumps showing fine skill in the art of surgery, none finer *of the kind* could be made, but unfortunately made at the wrong point.

Another and a serious objection is that the space occupied by the remaining portion of joint is required for a properly constructed artificial joint. Both cannot occupy the same space.

Nearly the same objections will apply to extremely long stumps, either of leg or thigh, — feeble circulation at the end, low vitality, danger of excoriation, and therefore slow process of healing. Long stumps are liable to swell at the end, and the artificial leg is required to be made larger at this point to meet the difficulty.

After passing nine inches below the lower edge of the patella, we make no use of the stump either for bearing or propelling power. Therefore as considerations of utility, safety, usefulness, and symmetry in the artificial leg, long stumps are undesirable. The best length of stump for thigh amputation is ten inches, measuring inside from body.

Of course the conditions of injury or disease determine shorter stumps. But the rule stands the same, and the more nearly it can be conformed to the better the results.

In all cases of anchylosis of knee-joint, flexed at right angles, the end of stump should fall one inch back of a line of the thigh. Such cases are well adapted for a leg with bearing on the knee. In these cases a greater length of stump is undesirable, as the perfect outline of the patient when dressed would be broken by a protruding stump.

The most desirable method of amputation, giving the best stump, capable of exerting the greatest power of locomotion, leaving the tissues the more nearly in their natural position and condition, and the least liable to injury or excoriation, is the anterio-posterior flap operation.

TREATMENT OF STUMPS.

It will be proper to remark in connection with this subject, that after a stump is well healed — to put it in the best condition for the application of an artificial leg, — it should be constantly bandaged as tightly as can be comfortably worn for four or five weeks. This renders it more conical in form, better adapted to sustain the weight of body on the artificial leg.

These observations and suggestions are the result of, and are based upon, a thorough practical experience of over thirty years in making and adjusting artificial legs to every form of stump.

CASE OF ACUTE DIABETES OF UNKNOWN DURATION; DEATH FROM COMA SEVENTY-TWO HOURS AFTER COMING UNDER OBSERVATION.[1]

BY DR. O. F. ROGERS.

THE patient was a rather pale and fleshy gentleman of forty-four years, possessed of abundant means, and previously in good health. His business gave him little labor and no anxiety. His habits were correct. On the evening of the 21st of December, 1882, he was out late and got thoroughly chilled. The next morning he had a sore throat.

On the evening of the 24th he called me to prescribe for his throat and to advise him whether or not to drive several miles the next day to fulfill a Christmas dinner engagement. He was in his parlor when I called, and gave me a brisk and cheerful greeting. The throat was of a dark-red color, the uvula and left faucial pillars were œdematous, and the left tonsil was somewhat swollen. A few herpetic patches were noticed upon the anterior pillar of the right side and upon the velum palati. The lips and nose were liberally strewn with herpes. There was slight dysphagia. The pulse was 120, and rather weak; the temperature 99° F.; the bowels were regular; the appetite impaired. He felt neither sick nor well. I remarked upon the feebleness and frequency of his pulse, and was told that for years this symptom had invariably accompanied a sore throat. I ordered a milk diet, one ounce of gin, and a dose of tincture ferri chloridi every three hours, and recommended him to go to bed.

On the 25th he said he felt better. The pulse was 124, and the temperature 98.6° F. The throat had not materially changed in appearance. He took an abundance of milk, and the gin and iron as ordered.

On the 26th the swelling and œdema of the left side of the throat had nearly disappeared; the right tonsil was now somewhat swollen, and there were several aphthous spots upon the mucous membrane of the gums and cheeks. He remarked that his mouth was dry, and repeatedly rinsed it with water and took frequent sips of milk or lemonade. He was rather restless, and asked for a half dozen things while I sat by him. He sat up in bed and was lively and talkative, and much interested in showing me a beautiful musical toy. He said that he felt better, but he did not look so. His features were drawn and the countenance grayish, and he seemed to have wasted since the evening of the 24th.

[1] Communicated to the Dorchester Medical Club, July 21, 1884.

Though his appearance disquieted me, I could not bring myself to believe that he was seriously ill. Later in the day I sent for a specimen of his urine, though I had not the slightest suspicion of the nature of his illness. The urine was of a specific gravity of 1.035, and contained eighteen grains of sugar to the ounce, and a trace of albumen.

I was informed by his attendants that he had during the past few nights — exactly how many they could not say — filled a chamber-pot with urine; also that he had urinated frequently and largely during the day. He evidently was passing a gallon of urine a day. He made about half his usual quantity of urine and was somewhat restless during the night, and complained of slight pain in his abdomen. His bowels were regular, though slightly constipated.

At five A. M. of the 27th he appeared to be dazed, was incoherent and indistinct in speech, and shortly afterward began to breathe heavily. At seven A. M. he knew and spoke to me, but soon became completely comatose, breathing deeply and loudly but not snoring. The pulse was 140 and weak. He now passed urine for the last time. This gave the so-called acetone reaction with the tincture of chloride of iron.

At ten A. M. Dr. D. W. Cheever, who had attended him in the city, saw him in consultation. He was then absolutely unconscious, and the pulse barely perceptible at the wrist. The breath had a sweetish, hay-tea odor; later on it smelt like fresh ensilage. During the whole day he lay unconscious, never moving, his face pale and skin moist and cool, breathing deeply and regularly and with great force, while the heart beats grew feebler and more frequent.

About a half an hour before death the intervals between the respirations became longer, and finally there was irregularity. Then for the first time cyanosis was observed.

Death occurred at five P. M., just three days after he came under treatment, and rather less than six days from the time of the exposure to cold.

The question of duration of the disease in this case is one of much interest. I believe it was a matter of days and not of weeks. He believed himself to be perfectly well on the 21st December, but there is evidence that he had been passing an unusual quantity of urine for a few days before that date. Three days before his death he had not perceptibly lost flesh, there was but slight diminution of strength, and it was not till the day before his death that his appearance indicated that he was seriously ill. Cases of acute diabetes presenting a history similar to this are very rare indeed.

A knowledge of the early symptoms and the predisposing and exciting causes of coma in diabetes is of prime importance to the practitioner. It is most apt to occur in young subjects and in acute cases. Nervous excitement, exposure to cold, muscular exertion, and constipation are predisposing causes. Frequency of the pulse, restlessness, abdominal pain, and deep respiration are the earliest premonitory symptoms of coma (Foster and Saundby). Sometimes a sudden diminution in the quantity of the urine and fall of the specific gravity have been noticed before the attack. The sudden appearance of albumen is of grave import, though it is by no means necessarily followed by coma.

Pharyngitis and red, spongy gums, associated or not with aphthæ, are sufficiently frequent in the later stages of diabetes to warrant the conclusion that they are a manifestation of the diabetic dyscrasias. There-

fore I venture the remark that when these symptoms are observed, and especially if they are attended by a weak and rapid pulse, an examination of the urine is indicated just as it is indicated by carbuncle, and perhaps to a greater degree.

The coma in this case was not treated, because I believe the condition has as yet no therapeutics.

A CASE OF MENSTRUATION RECURRING EVERY THREE MONTHS,

ATTENDED WITH SEVERE DYSMENORRHŒA, FOR TWENTY-SEVEN YEARS, COMPLICATED BY HYSTERIA AND NEURASTHENIA. RECOVERY.[1]

BY GEORGE H. BIXBY, M. D., BOSTON

Mrs. F., widow, aged thirty-eight, native of New Hampshire, was admitted to the Carney Hospital September 25, 1882. She had traveled eighty miles by rail, reclining upon a mattress. She was allowed to rest four days.

Family History. On father's side long-lived and intellectually endowed. Several deaths from phthisis had taken place on the mother's side.

Catamenia first appeared at the eleventh year; continued irregular, scanty, and of short duration. In early childhood, up to the time of the appearance of the menses, she suffered from habitual constipation. She became a teacher in her sixteenth year. Later she entered a normal school as a pupil, but before the close of the first term from sheer debility was obliged to leave. During the vacation she was suddenly seized with a fit of spasmodic coughing, which persisted three hours without interruption. This attack was not regarded as anything serious at first, but later proved to have made a profound impression upon her general health. A cough of a similar character occurred later, but of shorter duration. A few months of absolute mental and physical rest seemed to have restored her health. In 1870 she was married. She was now able to attend to all her domestic duties, if not overtaxed. Any great excitement, however, would induce a peculiar muscular contraction in the dorsal portion of the spinal region, subsiding after a short season of complete rest.

In 1871 these spasms were of frequent occurrence and of longer duration. Spinal anæmia was suspected by the family physician and treated without result.

At this time the most delicate contact with certain portions of the spine would call forth the most violent convulsive movements of the entire body, lasting at least a half hour. For three months she was confined to her bed, unable to move without assistance, always in the supine position. After that time she managed to place her feet on the floor, and a month later to walk on a level surface. The act of ascending stairs could only be accomplished by creeping. The spasms never entirely left her. Menstruation appeared at intervals of three months and always attended with sufferings not unlike the pains of labor. She seemed to lose at this period all that she had gained by the long interval of rest.

Between the years of 1871 and 1872 she had two miscarriages. In 1873 she gave birth to a full-grown male child with tedious labor. The child was nursed. After her confinement she gained rapidly; menstruation recurred fourteen months later, scanty and of short duration as of old, but less painful. A month later the death of her husband, after a short illness, threatened at one time a complete relapse. Owing to the decided improvement in her general health she rallied from the blow and continued in tolerably good condition. Two years later she ventured to resume teaching, but was interrupted by another emotional influence, namely, the death of her mother and sister, through whose entire illnesses she had been for months an untiring and devoted attendant. She began to experience loss of power in the spinal region, which caused her without any warning to slide from her chair, regaining strength to raise herself in the course of five minutes. Other members of the family fell ill, taxing her mentally and physically anew.

Early in 1881 cardiac and facial neuralgia ensued, and later sciatica of a most severe form, which necessitated the use of subcutaneous injections of morphia several times daily.

January 25, 1881, she discovered a tendency to contraction in the left knee-joint, already flexing the leg considerably, and which no amount of passive motion could overcome. A month later in standing she rested the affected limb entirely upon the ball of the toe.

Her surroundings and habits during the latter part of this long season of invalidism were as follows: She had received subcutaneous injection of morphia two or three times daily for a year and eight months. A failure to respond to her demands promptly would call forth fits of wild impatience. Mostly confined to her bed, the entire community ministered to her caprices. She received callers in and out of season, and interested herself in all passing events of the neighborhood. She sewed, knit, wrote, and read incessantly. In addition to emotional causes due to domestic troubles there came into the peaceful community a bitter religious war, and unfortunately the leader of this resided under the same roof. It is needless to say that the subject occupied her mind incessantly.

Examination of the Patient. Inspection. The patient is above the average stature, large frame, light complexion, large prominent eyes, hair slightly gray and cut short. A number of decayed teeth are conspicuous in the upper jaw. Face more or less emaciated, all giving her a haggard and careworn expression.

Palpation. Left limb a third smaller than the right, muscles flabby, decidedly atrophied above and below the knee. When she stands erect with back toward one, the left limb rests upon the left great toe. The peculiar raised condition, apparently of the pelvis, forms a picture suggestive of lateral curvature of the spine.

Diagnosis. Neurasthenia, dependent upon functional derangement of the sexual organs, ostensibly ovarian, in the form of amenorrhœa, intensified by repeated and powerful emotional causes.

Prognosis doubtful.

Plan of treatment. Removal from home. Immediate and total suspension of opium. Examination of the sexual organs under ether. Removal of decayed teeth. Preparation of the system for the use of iron. Later, iron treatment. Physical rest; mental rest. Passive exercise. Extra feeding. Straightening of the limb.

[1] Read before the Boston Society for Medical Observation, March 3, 1884.

The patient took her last hypodermic on the day of her arrival. Was allowed a suppository of opium and belladonna five nights in succession. By this sudden removal of the opium some reaction was, naturally, expected. To our great astonishment none whatever took place.

While the patient was under ether for extracting the teeth the sexual organs were carefully examined. There was no evidence of uterine disease except a slight erosion of the cervix.

Milk diet, one quart extra daily to begin with, was given in addition to full diet. Massage and electricity to be applied on alternate days. All mental exercise, such as reading, writing, and conversation, to be avoided. Rest in bed.

With regard to the medicinal treatment, I cannot resist quoting the valuable suggestions of Mr. Robert Barnes[1]: —

"It is accepted as an axiom in medicine that the blood, being deficient in red globules, iron is the remedy *par excellence*. This is true, but it requires more judgment in administering it than is usually shown. Long clinical experience has taught me the general law, that in all states of blood degeneration, whether resulting from malnutrition or wasting disease, as from hæmorrhage, iron is ill tolerated at the beginning. In all extreme anæmic states the febrile irritability I have adverted to is liable to be aggravated by the iron, if rudely and precipitately thrown in, as the phrase is. The tongue gets parched and brown, indicating a like state throughout the alimentary canal, inducing constipation, and generally impeding nutrition. Pulse rises in frequency. The true medication is first to allay vascular irritability, so as to prepare the system to assimilate iron. This is best done by salines, of which the best, I think, is the spir. mindererri. If freshly made, so marked is the benefit ensuing from the use of salines one cannot resist the conclusion that the blood is in want of salines as well as iron, and the salines is the first want. When the vascularity is subdued, when the secretory organs have been brought about, iron may cautiously be essayed."

In accordance with these suggestions the following treatment, preparatory to the use of iron, was ordered: Half an ounce of freshly-prepared liquor ammon. acetat., three times daily, for eight days. To be followed, a week later, by a saturated solution of chlorate of potash, one drachm in a wineglass of water, after meals. Six days later, drachm doses of the elixir of iron, quinine, and strychnia.

This *régime* was carried out ninety-nine days daily without a single omission. Diet of all kinds and medicine gradually increased. November 10th artificial teeth were inserted, making, in a short time, a marked difference for the better in her digestion and assimilation. During the ensuing weeks she improved rapidly. Menstruation, which had been irregular for twenty-seven years, now became regular. The opportune moment now seemed to have arrived for straightening the limb. By the kindness of Dr. E. H. Bradford the operation was undertaken on the 17th of January, in the following manner: —

The patient being deeply etherized the inner and outer hamstrings and tendo-Achilles were cut, and the adhesions in the joint forcibly broken. The anchylosis proved to have been false. The limb was fully extended and placed in a plaster bandage.

[1] Barnes on the Diseases of Women, pp. 167–168.

On the 24th, the plaster being perfectly dry, the patient was ordered to stand erect for a few minutes every day. On the 25th she walked twenty feet. On the 30th the plaster apparatus was removed; straight splint substituted; worn night and day. On the 31st required to flex and extend the knee ten times daily. February 9th, walked a few steps without crutches. February 12th, went down stairs ten steps. On the 15th, two flights of twelve steps each. Henceforth massage and electricity irregularly applied, but active exercise, walking about the apartment with the aid of crutches, up and down stairs, was systematically carried out; mental rest still continued. The improvement continued uninterrupted.

It is a remarkable fact that the next day after straightening the limb there was an entire absence of convulsions, however roughly the spine was manipulated. She was taking, in addition to full diet, at least three quarts of milk daily.

April 5th, after having been in the hospital seven months, still relying on her crutches, she went home, occupying a seat in an ordinary passenger car, and sitting erect. The journey ended by a drive of four and one half miles, by stage, over a very rough road.

As soon as the season would permit, out-of-door exercise was advised. The entire summer was spent in driving and walking. Increasing in health and strength, already before midsummer one crutch was thrown away. October 1st a cane took the place of the crutches. She occasionally complains of neuralgia when the wind is east. Menstruation perfectly regular. Walks any distance by the aid of a cane.

REPORT ON PROGRESS IN THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M. D.

KAIRINE AND ANTIPYRINE.

BOTH of these antipyretics are quite new; the former, kairine, was noticed at some length in last year's report, in which it was suggested that "it will be found to have too many disadvantages to ever become very popular, although as the forerunner of a more perfect antipyretic which we may look for in the near future it is of interest." The more perfect antipyretic has already been discovered, and appears under the name antipyrine; it is undoubtedly superior to kairine, and although it will in its turn give place to some new rival, it merits attention. But first a word about the action of kairine on the blood may be permitted.

M. Loyd[2] has recently published the results of his experiments in this direction, which are of interest in suggesting an explanation of its antipyretic action as well as of certain toxic symptoms which were observed in some cases where kairine was given in large doses. Under its influence he finds that the blood absorbs oxygen less readily, and this suggests the reason for the cyanosis and other similar phenomena which sometimes occur after the administration of this remedy.

Dr. Filehne[3] has introduced to the profession an alkaloid prepared by Dr. Ludwig Knorr, and named antipyrine on account of its antithermal properties. It is a white crystalline powder, readily soluble in water, without disagreeable taste, and, as a rule, is easily borne by the stomach, notwithstanding the fact that

[2] Practitioner, July, 1884; Progrès Medicale, May 10, 1884

[3] Zeitschrift für klinische Medicine, Liebenter, Band 641.

rather large doses must be given. The administration of five or six grammes, given at intervals of an hour in two-gramme doses, can reduce the temperature from that of a high fever to about the normal, and without any untoward symptoms except occasional vomiting. It may also be used subcutaneously. The duration of its action varies with different individuals; generally in from seven to nine hours, often eighteen or even twenty hours, after the beginning of its action, the temperature gradually rises. The rise in temperature is never accompanied by a chill, as is the case with kairine, and is generally without perspiration. The maximum antithermal effect is reached in from three to five hours. With children one half to two thirds of the above dose will suffice; patients with phthisis and such as are much emaciated should also have a smaller dose.

The frequency of the pulse drops in proportion to the fall of temperature, except in the later stages. The urine is free from albumen.

On page 162 of this journal may be found an account of the experience of several eminent clinicians with this substance, and still further favorable reports are given by Von Noorden.[1] He has observed that when the perspiration which accompanies the fall of temperature is prevented, by a dose of agaricine, no disturbance of the antithermal action of antipyrine is caused, so that this group of antipyretics probably do not act by causing a loss of heat through evaporation from the surface of the body. In his trials of the drug vomiting has seldom been caused; this may be avoided by using it subcutaneously in rather smaller doses. He makes the important suggestion that the heart and pulse should be carefully watched, particularly when large doses are given.

In children it has been used by Penzoldt and Sartorius[2] in twenty-one cases, twelve of which were sick with pneumonia, and the others with catarrhal pneumonia, erysipelas, scarlatina, and diphtheria. The children took the drug readily in orange syrup, vomiting was caused in only a few cases, and in two it was necessary to give up its use by the mouth and administer it per rectum.

No especial change in the pulse was observed, although it seems to have been somewhat less frequent with the fall in temperature. Their verdict is that antipyrine is a very suitable drug with which to lower the temperature in children, and by appropriate doses it is diminished several degrees in a few hours. The patients were more cheerful or slept quietly, and they were better at night under its influence.

The proper beginning dose is as many decigrammes as the child is years old, given an hour apart for three hours; per rectum from three to six times as much may be used.

After it has been continued some time the system seems to become somewhat accustomed to it.

ANTIPYRETICS.

An account of what seem to have been elaborate experiments on the antipyretic treatment published in *Virchow's Archiv* by Dr. Sassetzky, of St. Petersburg, is given in the *Lancet* of January 5th, and will be of interest in this connection. They consist chiefly of a study of the assimilative functions and tissue changes occurring in fevers, especially as shown by the elimination of nitrogen.

[1] Berliner klinische Wochenschrift, No 30, 1884.
[2] Berliner klinische Wochenschrift, No. 32.

The research was undertaken with the view of testing the effects of treatment directed to control the fever, and more particularly the cold bath treatment. Care was taken not only to analyze the urine but also the fæces in order to be able to estimate the elimination of nitrogen; at the same time the amount of nitrogenous food taken was carefully noted. In this way it was hoped to determine how far assimilation is interfered with, and what proportion of the nitrogen eliminated could be attributed to tissue metabolism.

Observations were made upon cases of typhus fever, relapsing fever, and pneumonia, typhoid fever being excluded. Analyses were made during three definite periods — during the antipyretic treatment, while the fever was left uncontrolled, and after the febrile disturbance had passed away.

In nine cases the antipyretic agent was the cold bath (72.5° F.) for fifteen minutes four times a day; in four it was quinine (two doses of ten grains each given in the evening); and in two it was salicylate of soda.

It was found that the cold bath invariably diminished the elimination of nitrogen, and that a similar but far less marked decrease occurred in cases treated by quinine and salicylate.

The writer would suggest that antipyrine offers an excellent opportunity to study the action of antipyretics, particularly as regards the elimination of nitrogen.

PARALDEHYD.

This new hypnotic is a modification of aldehyd, and presents itself in the form of a colorless, volatile liquid, which is soluble in eight parts of water. Its taste is less disagreeable than that of chloral. It may be given with syrup of orange or in the form of an emulsion.

Cervello,[3] after a careful study of its physiological action on animals, and after comparing its effects with those produced by chloral, has recommended it as a hypnotic. He observed that it produced a quiet sleep, unaccompanied by excitement or unpleasant after-effects, and with no disturbing action on the heart or respiration.

Clinically it has been used by several observers on quite a large number of patients.

Langreuter[4] has found it successful in eighty-two per cent. of more than two hundred trials in cases of mental or nervous diseases. An average dose of five or six grammes brought on sleep in from five to ten minutes, which continued at least two, and, as a rule, from five to seven hours.

Dr. Carl von Noorden[5] has given it to patients, having a variety of diseases, more than one hundred times with excellent results; in only two did it cause vomiting. He considers disease of the stomach a contra-indication for its use.

Two grammes of it cost one cent, according to Merck's price list; a dose would, therefore, be three cents, but in America the price is much higher.

In France[6] the accounts of its action are also very flattering.

Dr. C. Rank,[7] on the contrary, does not agree with many others who have used this substance. He complains of its extremely disagreeable taste and odor, and that it caused severe headache in many cases. In nervous sleeplessness and in delirium tremens it gave,

[3] Arch. f. exp. Path. u. Pharmak., Bd. xvi.
[4] Centralblatt f. klin. Medicine, No. 22, 1884.
[5] Centralblatt f. klin. Medicine, No. 12.
[6] L'Union Medicale, 1884, No. 8.
[7] Allgem. med. Central-Zeitung, July 26, 1884.

in his hands, satisfactory results, but in such cases as emphysema, bronchitis, cardiac diseases, acute rheumatism, and in various stages of tuberculosis the results were unfavorable or negative. As the drug is excreted largely by the lungs, the air in the vicinity of those who have taken it is strongly impregnated with its odor.

Notwithstanding some inconveniences it seems probable that this drug will be found to have sufficient advantages to make it a useful substitute for chloral when it is desired simply to overcome sleeplessness. It would seem to be a milder and safer hypnotic than chloral; and may prove a desirable addition to our limited number of hypnotics.

VINEGAR IN POST-PARTUM HÆMORRHAGE.

Some ten years ago Dr. Grigg [1] gave, by accident, a wineglassful of vinegar in a case of severe post-partum hæmorrhage. The uterus, which had previously been flaccid, contracted instantly, and the bleeding ceased. Since then he has used it successfully in another case, and has received favorable reports of its efficacy from his house-surgeons, and also from a number of midwives to whom he had recommended its trial. It is a remedy which may be readily procured, and is simple and harmless. He believes it to be better and more prompt in its action than ergot.

THE USES OF PEROXIDE OF HYDROGEN.[2]

This agent has been known and used in the arts for some time, and has also been used in medicine chiefly for its antiseptic properties, as it is one of the most potent destroyers of bacterial life. Its action on pus is rather remarkable. If a few drops of a ten per cent. solution be brought into contact with pus a brisk effervescence begins and continues until all the pus is completely destroyed. Its chief therapeutic value lies in its cleansing, antiseptic, and painless action upon foul ulcers. It is also useful in purulent ophthalmia, otorrhœa, gonorrhœa, etc., and as a mouth wash or gargle; it may also be mixed with glycerine and applied on absorbent cotton to the ulcerated cervix uteri. The account given of it is most flattering. It is colorless, odorless, and is not poisonous.

Dr. Steger [3] recognizes it as a valuable application for venereal sores, as it answers every purpose of the caustics and escharotics sometimes used in the treatment of these diseases, and at the same time it is painless. He has used this remedy in more than twenty cases of chancroid with success, and without using caustics or iodoform.

Reports of Societies.

CHICAGO MEDICAL SOCIETY.[4]

LISTON H. MONTGOMERY, M. D., SECRETARY.

THE TREATMENT OF ASIATIC CHOLERA IN SOUTHERN INDIA. — DISCUSSION.

DR. G. C. PAOLI had seen four cholera epidemics from 1834 to 1866, and since the latter date had passed through all the epidemics that had visited Chicago. Regarding the treatment he would add but a word or two, for all were familiar with it. Of all known remedies the best he knew was sugar of lead combined with opium to check the diarrhœa, in the proportion of two grains of the former to one fourth grain of the latter, given as one's judgment might dictate. In the stage of collapse it was useless to administer internal remedies, because the stomach would not absorb them. The blood is at this stage inspissated and would not flow, perhaps, and then the best external application was dry heat in the shape of warmed blankets. He did not believe in the germ theory as a cause of the disease. If germs existed he believed them to be innocent as causes of the disease.

DR. R. H. ENGERT asked the writer of the paper what his percentage of recoveries were in the cases he had treated.

DR. JOHN BARTLETT gave his experience briefly in treating 250 cases of cholera brought to a hospital in which he was attending physician; the per cent. of mortality was extraordinarily large. He expected he would be able to save the lives of one out of every two patients, but only one out of every six recovered. However, when they were brought to the hospital they were in the blue stage, or semi-collapsed, or partially cyanosed.

DR. J. H. ETHERIDGE stated that he believed the nervous system would in the future be proven to have more to do with the ultimate pathology of cholera than bacilli, which he regarded as an illusionary aspect of the disease, and that by using neurotic remedies at the first we will get at the gist of the trouble, — such remedies as relax the vaso-motor spasm of the abdominal circulation, preventing congestion of the venous system, and assist the vessels to correctly perform their physiological action, thus preventing their pouring watery portions of the blood into the intestinal canal. Dr. Chapman, of London, years ago applied ice bags to the spine for diarrhœa to enable the abdominal vaso-motor nerves to control the proper distribution of the blood.

DR. G. NEWKIRK asked if there was not some way by which the community could be educated through the newspapers so that the people could forestall epidemics? He had recently read in a Jewish newspaper that the Jews in France had not been afflicted with the cholera. If this were true he could not understand why they escaped its ravages, or how they were immune from it, unless it was because of their habits or better manner of dieting from instructions they obtained by reading Jewish journals.

DR. SCUDDER, in closing the discussion, said that the per cent. of recoveries varied from ten per cent. to eighty per cent., or, in other words, death occurred in twenty per cent. to ninety per cent. of the cases. In severe epidemics eighty per cent. to ninety per cent. of the cases resulted fatally. It would depend upon how early a case was seen, as to the chances of recovery. In thirty cases that he treated at one time by fumigating the premises with sulphur in addition to the other treatment, forty per cent. of them recovered, while in another shed in the relief camp with exactly the same conditions and treatment, except the fumigation process, where twenty cases were treated, eighty per cent. died.

In India the natives would not drink well water. Their religion had much to do with the frequent visi-

[1] British Medical Journal, January 12, 1884.
[2] C. E. Shelly, M. B., Practitioner, March, 1884.
[3] The Medical Record, January 19, 1884.
[4] Concluded from page 279.

tations of the cholera, for it taught them to drink only that which descended from heaven. This is true near Calcutta and Madras, where the water tanks are located near their temples of worship, which they regard as being sacred; they consider the surface water to be nearly as sacred as that which is stored in the tanks. An examination of this water showed it to be impregnated with microbes, or the germs of cholera. In contrast to the natives of India were those of China and Japan, where garbage and human offal are used to fructify the fields, and because they drink well water they are comparatively free from cholera. The Indians do not remove excrement and offal, or they do not cover it up, and when rain descends, which sometimes amounts to eight or ten inches during a single night, the surface water which they use is polluted. The speaker did not think that any benefits would be derived by people running away for a short distance from a district in which cholera was epidemic. General panic and fright predispose to the disease, and had much to do with its fatality. In India the poisoning of persons afflicted with cholera was frequent. Arsenic is given to a great extent, and the crime is largely undetected.

RHODE ISLAND MEDICAL SOCIETY.

THE usual quarterly meeting was held in Providence, September 18, 1884, the President, DR. OLIVER C. WIGGIN, in the chair.

PRESIDENT'S ADDRESS.

On opening the meeting the President regretted that he had been unable to procure any formal paper for the occasion. He hoped he was not assuming too much in reminding the Fellows that it was a duty they owed to each other, as implied in the covenant of their membership, to bring up the tithes out of their abundance, and thus cultivate a mutual respect and a broader fellowship. He thought it would be well if the Society would have a subject, or class of subjects, towards which to direct its thoughts, researches, and communications for the entire year. This would afford an opportunity for several essays and discussions upon the same subject. Such a course could but provoke much earnest and useful labor. As an initiatory experiment in this direction he would invite the presentation of essays on any of the zymotic diseases. It was hoped that essayists would confine themselves, in the treatment of their subjects, to the cause and prevention of the diseases under consideration, to the exclusion of their pathology and treatment. In other words, it was sought to direct the essays towards the somewhat prevailing tendency of medical research to "preventive medicine."

The President further alluded with satisfaction to the good work which the Society had accomplished in the last two years in effecting the enactment of the new medical examiner law. The law was drafted and ushered to the General Assembly by a committee appointed by the Society, and was enacted, with slight modifications, as it came from the committee. The success of this very important measure has been, on the whole, highly satisfactory. It was, moreover, flattering to the Fellows that out of twenty-four medical examiners in the State twenty of them were members of the Rhode Island Medical Society. It was believed, on the other hand, that the State had done itself an honor in launching the new law upon the public under the care of those who would direct it to the beneficent ends for which it was intended. It was believed, upon careful inquiry, that every appointment had fallen upon men who fully appreciated the importance and dignity of the office, and who would at once enter upon that special preparation so indispensable to the service. Attention was called to the fact that the library of the Society now afforded excellent facilities for medico-legal inquiry.

The President further urged the importance of establishing a pathological and anatomical cabinet, under the care of a special committee.

DR. S. OSCAR MYERS reported a case of

RUBBER CATHETER BROKEN OFF IN THE URETHRA,

and exhibited the specimens.

A man, aged sixty, had suffered several years with partial paralysis of the lower extremities. The sphincter of the bladder was also involved, and he was unable to retain urine more than an hour or two. Having found a rubber urinal unsatisfactory, he had recourse to self-catheterization at regular intervals, and had generally used a No. 10, American, soft rubber catheter, which was easily introduced but always withdrawn with some resistance. From long usage this instrument became brittle and cracked, — injuries which his frugal wife repaired with her needle. The catheter finally broke during withdrawal, leaving about five inches of its length in the bladder and urethra. The detached piece was seized and removed with straight uterine forceps.

Dr. Myers asked the best method of extracting a soft rubber catheter that had broken off or slipped entirely within the bladder.

DR. CASWELL recommended a small lithotrite to remove such bodies from the bladder. He had lately seen a case in which a soft catheter was sucked into the urethra. An ordinary dressing forceps caught it, and would be serviceable in such cases when the end of the catheter is anterior to the symphysis. Special urethral forceps, if deeper.

DR. BATCHELDER called attention to the frequency of these accidents with catheters, and thought they might be avoided somewhat by physicians more carefully specifying the instrument to be used and frequently inspecting it. He reported an analogous case. A middle-aged man who had been for some time accustomed to the use of a catheter consulted him for swelling and tenderness of the penis, a condition which was aggravated by unsuccessful attempts to pass the instrument. An obstruction was felt two inches from the meatus; the patient was put under ether, external urethrotomy performed, and a calculous mass weighing twenty-six grains removed.

DR. E. T. CASWELL read a paper on

PELVIC ABSCESS,

with special reference to a recent case.

Mrs. ——, aged forty-five, the mother of one child, seventeen years of age, came under treatment for persistent metrorrhagia. Dilatation of the cervix was undertaken for purposes of a more critical examination, and a sea-tangle tent was introduced one morning, followed by another in the evening, and larger carbolized sponge tents the next day, the process causing less discomfort than is usual. On examination nothing abnormal was found except two or three en

larged Nabothian glands, which were brushed over lightly with nitric acid.

Towards the end of the first week symptoms of peritonitis appeared. Variations in temperature and a hectic flush soon after indicated a forming abscess. Five weeks later a hard lump appeared in the left iliac region. This extended itself upwards, and could be traced to some depth in the pelvis, although a vaginal examination failed to reach it. Finally, ten weeks after the dilatation, fluctuation showed itself, and the abscess was opened under antiseptic precautions through the abdominal wall, about two inches above Poupart's ligament, and more than half a pint of healthy pus evacuated. A drainage tube was inserted, and the cavity syringed out with a solution of bichloride of mercury, one to 2000, and dressings saturated with the same solution applied. At each dressing for several days the cavity of the abscess was washed out. The washings were gradually diminished, and the tube removed in ten days. Convalescence was rapid.

It is fortunately seldom that the introduction of a tent is followed by such consequences, but these, and even worse, are within the experience of every man who has had much to do with uterine surgery. What determines the complete innocuousness of tents in one case and their potency for evil in another is a problem yet unsolved. In this case there had been no history of an antecedent cellulitis, or of anything that might contraindicate their use.

If from any cause an abscess forms in the pelvic cavity, the question arises, shall it be interfered with or shall it be allowed to take its course? If left to itself, the pus may find its exit either through the abdominal wall, through an opening into the intestines, into the ureters or bladder, possibly through the uterus itself, or, worst of all, and most to be dreaded, it may break and discharge into the peritoneal cavity. This last termination has been the strongest argument for surgical interference. To open the abdomen for the removal of a tumor, which can be disposed of in no other way, is, of course, the wisest and best course; but to open the abdomen to evacuate an abscess which, if left to itself, may find a perfectly safe exit is, at best, a hazardous proceeding. Every such case must be studied and decided by individual features.

DR. G. W. PORTER remarked, that usually there is comparatively little danger from the use of the first sponge tent; danger may follow the second or third tent, as sepsis is from absorption, which is more likely to follow prolonged dilatation. He recalled a case seen in consultation, in which, after removing a small tent, a soft polypus was twisted off, leaving a spot of absorption, and a second tent introduced. The result was septicæmia and death. Sponge tents should never be used as part of office practice, but only when the patient is in bed. If there has been no previous cellulitis their use is comparatively safe. If used carelessly they are a source of immense danger.

One difficulty attending the use of the laminaria tent is, that being of uniform diameter it may expand most where there is least pressure, that is, in the uterine cavity above the internal os, making its removal troublesome.

It is a good plan to make our own sponge tents. We thus have them of just the size wanted, are sure of proper antiseptic precautions, and can leave the surface rough. Such tents remain in the cervical canal much more surely than the smooth ones found in the shops.

SANITARY PRECAUTIONS AGAINST CHOLERA.

The PRESIDENT asked what sanitary precautions should be taken in view of the possible introduction of cholera next year?

DR. C. V. CHAPIN, Superintendent of Health, of Providence, replied that whatever theory be adopted concerning the nature of the disease, we look first to quarantine as an important means in preventing or delaying its progress, and maritime is much more successful than inland quarantine.

We cannot prevent the entrance of cholera, but we can prepare for it by securing pure soil, pure air, and pure water.

To prevent pollution of the soil a good system of sewerage is one of the essential conditions. The sewers in Providence are well built and in excellent condition, but there are two vital defects in the system: the houses are not all connected with them, and their outlet is not far enough from the heart of the city.

Where there are no sewers we have to deal with cess-pools and privy vaults, and the difficulty increases if there is an abundant water supply. In country places the disposal of sewage on the surface is less dangerous than cess-pools.

In Providence, in 1854, the hog-pens were found to be a nidus of cholera poison. All such nuisances should be abated. Streets and thoroughfares should be kept clean. All the conditions which pollute the soil will also pollute the air. Houses should be inspected, disinfected, and cleaned, and overcrowding prevented if possible.

The water supply should be from a source under control. Wells in thickly-settled places should be abandoned. Privy vaults should be systematically disinfected.

The bichloride of mercury, one to one thousand, is more efficacious as a disinfectant than any other practicable on a large scale.

DR. E. M. SNOW gave some interesting reminiscences of the outbreak of cholera in Providence in 1854. There were 159 deaths; 140 in two localities on the east side of the city, and nineteen on the west side. He noticed particularly the danger to washerwomen who washed clothing soiled by cholera patients. Such soiled clothes or bedding should be burned or thoroughly disinfected before washing.

As recommended by the Board of Censors, Drs. G. Edward Buxton, of Pawtucket, and Frank A. Payan, of Olneyville, were elected Fellows.

—Robert Barnes, writing from London to the *American Journal of Obstetrics* of some of the peculiarities in the professional relations of that metropolis, speaks of the contempt in which the practitioners of midwifery have been held by physicians and surgeons, and tells of a neat repartee once made thereupon by Robert Lee. At a full meeting of the Medical and Chirurgical Society the late Mr. Skey, bursting with an exultant sense of his surgical dignity, exclaimed, "Thank God, I know nothing of midwifery!" The rejoinder was prompt and crushing. "If," said the veteran obstetrist, "the gentleman who has just spoken is thankful for his ignorance, he has much to be thankful for!"

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THE EXTENSION OF CHOLERA.

The two countries in Europe whose government officials, central and local, were the most prompt in proclaiming quarantine after the epidemic character of cholera in Southern France was realized were Italy and Spain, and not only was quarantine proclaimed in those countries but it was enforced, with all the vexatious and minute restrictions of a mediæval infatuation, and that not merely against ships or travelers from infected places but against all comers from whatsoever quarter.

It was not to be marveled at that Italy should take certain reasonable precautions against fugitives arriving direct by water or crowding over the Mt. Cenis railway and her French frontier from Marseilles and Toulon, especially as many of her own citizens of the poorer and less provident classes were at work in those towns. Nothing short of blind fear, however, could have suggested the extension of the same measures indiscriminately to all the routes of travel entering her northern frontier, to the St. Gothard and Brenner equally with the more western road.

Here is a description of the process from the reliable correspondent of a daily contemporary writing from Switzerland about August 1st: "At Chiasso on the St. Gothard road travelers are all cooped up together in a vile barrack, so closely packed, regardless of age, sex, and condition that the most common decencies of toilet are impossible. The food served out to them, and for which they have to pay dearly, is of the worst description, and for this there is no redress. Exercise is not permitted except for an hour a day in a paved court, under the superintendence of an official who watches the traveler carefully lest he should attempt an escape. The same thing prevails at Luino on Lago Maggiore, at Bardonneche, at Ventimiglia, and is carried on so entirely without discrimination or judgment that a man who has perhaps crossed the frontier half an hour, say, is detained on his return, cooped up with fugitives from cholera districts, thus perhaps making him a source of danger, which he certainly was not before."

Notwithstanding all this, the very first countries, after France, to develop cholera were Italy and Spain. In the former the first cases made their appearance in the last days of July, a man dying at Leghorn July 28th who had arrived from Marseilles and had fulfilled all the quarantine regulations; the latter country was invaded a little later. In Italy, Naples and Spezia have been especial sufferers, and in each place the especial reasons were not far to seek.

The first suspicious cases were reported from Naples August 24th, since which time more than 5000 people have died of cholera in that city alone, the highest daily mortality, 365 deaths, occurring on the 9th inst. Since this date there have been daily fluctuations, but the mortality is still very large, though declining, and the last daily toll of deaths reported as we write was 161, for September 22d. If one remembers that Naples has a population but little exceeding that of Boston, the weekly mortality-rate of which, from all causes, at the same season, may be set down at from 200 to 220, a realizing sense of what the daily deaths from cholera at Naples really mean may be arrived at.

The total number of deaths, something over 5000, is at least equal to that of all who have died in the whole of France up to the present time since the first case at Toulon, about June 17th, and that in one month. The deaths seem to have been about forty per cent. of those attacked, and it may with safety be reckoned that there have been about 13,000 cases.

This is, indeed, an experiment on a large scale, but whether anything more will be learned from it than was known before, to wit, that Naples has an insufficient water supply, bad drainage, and a very large, underfed, overcrowded population, packed in high tenements, abutting on narrow, dirty lanes, remains to be seen. The government at Rome is reported as having resolved to attack some of these conditions, but Naples has had many similar lessons before from plague, fever, and cholera, and we are reminded that the chapel vowed to their patron saint, Gennaro, by the stricken inhabitants, in 1527, was not begun until after a delay of eighty, and not finished for more than one hundred, years. It is to be feared that the Neapolitan ardor in hygiene will brook delay even more easily than their ardor in superstition.

Italy and Spain were the countries most strongly objecting to the adoption of the resolutions by the Vienna Cholera Conference of 1874 condemnatory of the old-fashioned perfunctory quarantine, but they can hardly hold that a detention of forty days would have availed them more than has one of twenty or ten, or would have stopped up any more of the holes in their sieve-like barricade. The countries which cry the loudest for the strictest quarantines are like those individuals who spasmodically and tempestuously tell their beads, most conscious of secret sins.

The royal visit of King Humbert to Naples has shown us that a king can be at once courageous and intelligent, and emphasizes the theory, based upon many observations, that the contagium of cholera may be safely faced, as a rule, if excluded from the digestive tract. It is reported that the food and drink consumed by the king during his sojourn in Naples were all forwarded from Rome. The priest and one of the guards accompanying the king are reported to have died. The royal exposure, however, was none the less admirable because arranged for on a scientific basis.

MILITIA AMBULANCE BEARER COMPANIES.

WAR is the intelligent but barbarous use of force in the settlement of national disputes, and while the humanitarian deplores its necessity he recognizes its occasional good results and attempts to mitigate resulting horrors. The first end to be gained is victory; that being accomplished, the care of the injured combatants should next engage attention. Modern warfare has reached a stage of perfection in which results are rapidly accomplished, and this is undoubtedly due to the development of arms, which can be used with rapidity and precision, the mobilization of troops, and their rapid and machine-like movements. Modern warfare has brought into use the railroads, telegraphs, massive steel cruisers, and new explosives. When we consider that with the improved Gatling and Nordenfelt ten-barrel guns a thousand shots can be fired in each minute, as was actually done in the Soudan, we see that a large number of combatants can be rapidly disabled. This increase in destructive power creates an increased necessity for means of caring for the injured. Unfortunately, however, military commanders have generally considered the care of the wounded as a minor consideration, and only in recent years has it dawned upon such officers that the certainty of good care in the event of misfortune develops in men an "esprit de corps" second only to the accomplishment of victories. Again, the certainty of good care and attention, in case of injury, softens the anxiety of those who part with their loved ones for the national defense. This home feeling forms the foundation of the moral support on which commanders at times lean so heavily, and without which supplies of men and material to carry on their campaigns would be wanting. The lamentable failure of men to receive proper medical care in the Crimea early drew attention to the defects of the old system of caring for the disabled. It was only when Letterman in our civil war developed gradually an ambulance system (which at the close of the war was quite effective) that the necessity for sure, rapid, and effective treatment and transportation of injured combatants was properly appreciated. Many will remember the heart-rending tales of the needless suffering in transportation inflicted on our soldiers in the early part of the civil war. Needless, because this exigency of warfare should have been foreseen and provided for. As late in the war as February 24, 1863, a bill to organize an ambulance corps failed to pass the United States Senate, and it was rejected owing to its being considered by the committee "an impracticable measure at this time," "this time" being the especial moment at which its need was greatest.

It is rather surprising that a matter of such vital importance as the care and transportation of wounded combatants should have been delegated until within a few years to a body of untrained and hence unskilled, unqualified band-men and stragglers.

That a military commander should leave his second greatest object to be achieved in the hands of an ill-defined body of men, a failure in whom to perform their duty brings disaster and defeat upon him and disgrace in the eyes of all civilized people from his failure to provide for the ordinary exigencies of warfare, is past comprehension. Major-General George B. McClellan appreciated the necessity for an ambulance corps. In a letter dated February 21, 1863, addressed to Henry I. Bowditch, M. D., in answer to the question, "Should the men in the ambulance corps be detailed soldiers, taken from time to time from the ranks, or should they be men enlisted for the purpose and taught their especial duties?" General McClellan answered as follows: "There are many self-evident objections to the system of taking men temporarily from the ranks for this duty; they need instructions in their peculiar functions as well as the ordinary discipline, and should have distinctive uniforms. I am of the opinion that men should be enlisted especially for duty in the ambulance corps." Dr. Bowditch asked also the following question: "Do you think the establishment of such a corps would increase the number of non-combatants?" McClellan's answer is: "I think it would decrease the number of non-combatants, especially during battles."

In recent campaigns no such flagrant neglect can be recorded. The rapid advance which Wolseley made into the interior of Egypt, owing to the retreat of Arabi Pasha, demonstrated that had he been encumbered with sick and wounded, or had not his medical department been completely organized, his campaign would have been seriously impeded and possibly failed. Even as it was, a long investigation of the "break-down" of the medical department ensued on his return. This so-called break-down was probably due to the non-elasticity of the department in its inability to conform itself to the strained situation from lack of proper training. Although the histories of campaigns will always essentially differ, by reason of the ever-varying circumstances which surround them, a lesson has been taught that in future a successful army must be one that can move rapidly and strike quick and decisive blows, and an army whose fighting men must wait to care for the wounded does not meet the requirement.

One hundred and thirty-three thousand dollars were expended in 1883 by the Commonwealth of Massachusetts for her volunteer militia; this amount keeps in existence and instructs a body of men who would in case of need quell insurrections and repel invasions. Infantry, artillery, and cavalry are the three branches developed, and of late years special attention has been paid to heavy artillery, rifle practice, and signaling, but owing to a variety of causes no ambulance corps has ever been established. It is generally considered that a militia should be a school of instruction for the men, and the public expect the development of a nucleus from which can grow, in case of necessity, an effective body of soldiers. Now it is a well-worn axiom that familiarity and experience with any work are necessary for its best accomplishment. Therefore the training of an ambulance bearer corps should form part of the duty of the volunteer militia. Of small numbers, but properly instructed and drilled, this body would form a unit from which might spring in time of need

a service of the greatest importance. Volunteer ambulance bearer corps have recently been instituted at the various hospitals throughout England, and the corps as they now exist are formed of medical students. These corps occupy the same position to the volunteer militia that the hospital bearer corps do to the regular army. At Aldershot, a few weeks since, a detail of a hundred men, acting as wounded soldiers, were searched for at night, after a supposed battle, by the aid of an electric light carried by a bearer company of the army hospital corps, with all the paraphernalia of transports complete. The application of the electric light was a distinct success, the necessary dressings of the wounded being performed with accuracy and dispatch.

An attempt was made at one of the recent annual encampments of the Massachusetts militia to instruct the men in the treatment of emergencies; owing, however, to a variety of causes the trial was a failure. This was due, in a great measure, to the amount of tactical instruction and drill required of the men. The topics considered were of general interest, but the men showed a lack of appreciation by reason of these conflicting duties.

It was also found impracticable after "retreat," the men requiring amusement at that time rather than instruction and hard work. Now, while a general knowledge of the principles of sanitary science, as taught German officers, is of importance, we feel that in time of war the rapid treatment of wounded combatants demands the training of brave and intelligent men for this important work. We hope that there will soon be an ambulance bearer corps connected with the various State militias, under the control of the surgeon-general of the State. A company should be connected with each brigade, under the direction of the medical director, and this company should be composed of enlisted men, having the proper number of sergeants, corporals, and privates. A number of such a bearer corps should be medical students, as it is self-evident that by the discipline of such a service they would be better fitted to act after graduation as medical officers of the volunteer militia.

ALCOHOLIC DISEASE IN CHILDREN.

One of the most painfully interesting communications at the recent meeting of the British Medical Association, says the *Lancet* (September 6th), was by Dr. T. M. Madden, Physician to the Hospital for Sick Children, Dublin, on Alcoholism in Childhood and Youth. Dr. Madden testified that many such cases came under his view. He gave particulars of a case of marked delirium tremens in a boy aged eight. His mother was a drunkard, and he, at the age of six, on discovering a secreted bottle of whiskey, showed the hereditary tendency to follow her example. Before admission into the hospital with delirium tremens he had obtained access to a bottle of port wine and almost emptied it. He nearly died from coma, and, delirium tremens supervening, he was taken to the hospital. Boils followed, and he remained weak in mind and body for nearly a month. He was then sent to a reformatory and recovered. A second case of juvenile alcoholism in a newsboy, aged eight, was the son of a drunken mother. He was sent for his mother's whiskey, and was rewarded with a sip. Dr. Barlow, of London, followed with some startling facts as to infantile alcoholism, gathered from his experience in the Children's Hospital, Ormond Street. He had seen the evil effects of small doses of gin given to babies at the breast for flatulence. He had also found it customary to give quite young children among the poorer classes a daily quantity of beer. He had seen two or three cases of well-marked typical cirrhosis, with a little ascites, from this cause. He detailed one very striking case — the child of an apparently healthy mother, able to suckle it, and in fair circumstances. From six months old the child was given a tablespoonful of beer twice daily, and from nine months old a teaspoonful of gin in as much water daily. The child died, and was found to have one of the most typically hob-nailed livers Dr. Barlow had seen. Dr. Barlow properly added that he had seen hob-nailed liver in children where it was not possible to have alcohol. Dr. B. O'Connor bore similar testimony. These are appalling facts, which give great force to the warning of Dr. Madden and Dr. Barlow as to the responsibility of prescribing alcohol to children.

On the other hand the unperverted taste of children is often the physician's surest guide for the administration or cutting off of alcohol in wasting or debilitating diseases. Few practitioners, probably, have not had occasion to wonder at the strange instinct which leads children to refuse stimulants which they had previously been taking in large amounts, and with evident relish; in such cases the result of immediate discontinuance almost invariably justifies the obedience to the instinct.

MEDICAL NOTES.

— In the latest number of the *Centralblatt für die medicinischen Wissenschaften* to reach us, under date of September 6th, the editors, Professors Kronecker and Senator, write these appreciative words of their deceased associate, Julius Cohnheim: —

"On the 15th of August, at midnight, Dr. Julius Cohnheim, the regular professor of general pathology and pathological anatomy in the University of Leipzig, quietly and painlessly passed away, in consequence of an attack of palpitation, after long sufferings, in the forty-fifth year of his age. Attacks of gout, the first of which visited him fifteen years ago, gave rise to progressively increasing disease of the kidneys, in consequence of which his heart had become hypertrophied to a very unusual degree. His great vitality and the devoted care of his noble wife and affectionate physician had averted for two years the constantly impending danger of dissolution. Now that the care is over the remembrance of our great loss remains. His intellectual powers were still at their height when sick-

ness disabled his body. This is not the place to express an estimate of Cohnheim as a student. He has, in his manual of general pathology, erected a monument which shall long be an inspiration to the investigator striving for his high aims. Simple and vigorous as was his truth-loving character is his style of expression. His joyousness of nature was never disturbed by harsh or even malicious criticism of his investigations in untrodden fields. He openly acknowledged errors into which he had been led. He gladly accepted the coöperation of others. He communicated his clear views without reserve to his fellow-workers. Hence he collected a large circle of pupils, in whom his thoughts and his methods will continue to live. His rich mind took intelligent part in every intellectual movement, and enjoyed intercourse with friends of the most different professional circles. He has been associated with this periodical from its origin, as founder, collaborator, and in the years 1866–1868 as editor. A true friend has gone from us. His spirit still lives with us."

— The correspondent of the *Lancet* (September 6th), writing from Italy, has a good word to say of the tour of King Humbert II. through the cholera-stricken communes. "Two years ago," remarks the writer, "during the disastrous floods in the Venetian territory; last year, after the calamitous earthquake in the island of Ischia; this year, in the choleraic centres of Piedmont — the King has endeared himself to his subjects by his faithful reproduction of that heroic self-abnegation and paternal solicitude on their behalf which they love to associate with his sire, the '*Re galantuomo*.' Modestly attired in a low, round hat, with walking-stick in hand, accompanied by the Prime Minister Depritis, by his adjutant, and by the local physicians, he has been visiting every hospital where the cholera patients are housed, going from bed to bed, inquiring into each individual case, taking note of the treatment and its results, addressing genial words of encouragement to the more desponding sufferers, and leaving substantial donations to each institution on his departure. Praiseworthy as such conduct would be in a country like ours, it is trebly so in Italy, where ignorance, superstition, and centuries of insanitary prejudice have added tenfold to the miseries and the dangers of the cholera epidemic."

— The Bearing of Electric Lighting on Health was the subject of an essay by Mr. R. E. Crompton and a conference at the recent Health Exhibition, as we learn from the *Popular Science Monthly*. Mr. Crompton held that the conditions of health were not so good in any kind of artificial light as in daylight. Even the electric light, diffused, is deficient in intensity and inferior to daylight. All artificial lights except the electric contaminate the air. At the twelve-candle standard, coal-gas vitiates 348, paraffine oil 484, composite candles about 650, and tallow candles 933 cubic feet of air per hour, but the electric light none. The amount of heat produced in the same time by the same lights is represented respectively by the numbers 279, 362, 383, 505, and 14. The criticism of the glare of the electric light is not just; we are not supposed to look at it. The real test is the intensity of the diffused light. The steadiness of the incandescent electric light gives it a great advantage over all others, and the arc-lights are also being made more steady. The eyesight of the men in the British General Post Office has been greatly improved since the electric lights were introduced. Other advantages of the electric light are the greater pleasure it gives, its greater convenience, and its absolute safety.

— Dr. Mercier, of the West Pennsylvania Hospital, Pittsburg, relates (*Philadelphia Medical Reporter*, May 31st) the case of a black poodle, a year old, and weighing about fifteen pounds, from which the spleen was removed in 1875. It was gently detached from surrounding parts, leaving only a narrow pedicle, which was divided after being tied with silk ligatures. These were cut off short and allowed to remain in the wound. The incision of the abdomen was closed by six silver sutures. These were removed after two weeks, and the dog continued a house pet for nine years, exhibiting no change in disposition, and acquiring about double its former weight. He was a good house dog, and in every way a healthy anima[1]. He died suddenly after exposure to severe cold, January, 1884, the only lesion discernible being severe enteritis affecting the lower part of the small intestine. There was not the slightest trace of the spleen, nothing to denote its former locality, no remains of the pedicle, nor anything to show that nature had made the slightest attempt at restitution.

— The *Medical Times*, speaking of a recent discussion at the meeting of the British Dental Association at Edinburgh on the fee for operations, and the absurd system of giving advice, where no operation was indicated, for nothing, says: "The question thus raised is, however, capable of wider application than to dentists only. In all the departments of our profession the public are willing to pay, or at any rate do pay, at a very much higher rate for manual dexterity than for advice pure and simple. Indeed, the inconsistency and absurdity is much more obvious in the case of medicine and surgery than it is in dentistry. Thus a man will pay two guineas for a consultation on which the whole future of his life depends, for instance, whether he is to leave the country on account of a supposed or real delicacy at his chest, and a hundred guineas for the removal of an eye that is hopelessly lost. So long as the profession by its silence virtually expresses its approval of the doctrine implied by this scale of fees as to the relative value of scientific discrimination in the one case, and the extremely slender manipulative dexterity required in the other, we must not be surprised if the public fail to take a more enlightened view."

— Baron Tennyson has received a well-deserved rebuke by Dr. Moxon in a paper recently read by him on the late Dr. Hilton Fagge, and published in the English journals. The poet, in a volume of ballads published in 1880, gave expression to libelous remarks regarding the medical profession, whereupon Dr. Moxon comments as follows: —

"Fagge's greatness as a physician appeared in his always kind and sympathetic and Christian treatment of the sick poor. It is easy for poets to put their own denials of Christ into other people's mouths, and then as fashionable authors to spread them about on drawing-room tables. It is convenient to be able to work off your baser sentiments in a false character; you yourself then appear pure by contrast with your own creations. But if one's solemn every-day duty is spent face to face and eye to eye with the sorrowing and suffering poor, one wonders how even a poet-laureate could be capable of thinking the matter of those loathsome lines of this new peer. I wonder is he yet ashamed of them? What footing has this poet aristocrat on any grounds of charity that justifies him in putting his blasphemous sentences into the mouth of the child he supposes? Let him go into a children's hospital, and see how far the poor sick little ones think as vilely as he of the kind-hearted doctor, whose only sorrow is that his best help to his little patients too often proves ineffectual. Fagge was physician to the Evelina Hospital for Sick Children. His sympathies were not with grandeur and the House of Lords."

— Professor Mallet, M. D., LL. D., Ph. D., has been appointed to the chair of chemistry in Jefferson College as successor to the late Professor Rogers.

— Among the new methods recommended for the use of iodoform we note a plaster made by incorporating with the ingredients employed in making ordinary adhesive plaster twenty per cent. of iodoform. This plaster, if applied directly to the previously cleaned surface, and in the case of slight burns and small wounds, is said to be very healing.

Correspondence.

SUCCESSFUL TREATMENT OF SNAKE-BITE BY THE EXPLOSIVE CAUTERY.

Mr. Editor, — The recent reports of fatal cases of snake-bite induce me to invite attention to a method adopted and found successful in the case of a soldier of troop I, Fourth Cavalry, at Camp Supply, Indian Territory, in the fall of 1878.

The patient was struck upon the dorsum of third phalanx of the forefinger while engaged in gathering wild grapes.

He reached me very soon after the occurrence, probably not more than ten minutes. The surface about the fang puncture was slightly moistened and as much gunpowder as could be retained placed on it. The powder was then ignited, the wound scarified, and powder again ignited upon it; then a light linseed poultice sprinkled with tinct. opii. completed the dressing. Brandy was administered freely, and the patient soon fell asleep. The finger and hand were considerably swollen and discolored. There was slight nausea and depression, all of which soon passed off, and the man recovered.

I had learned of a case occurring among the Indians a short time before this, which was successfully treated by the explosive cautery, followed by a poultice of the chewed root of a species of chenopodium. No stimulants. In this case, that of a young squaw, the wound was on the leg.

This cautery is rapid, painless, and thorough, and if quickly applied appears to afford the best chances for recovery.

Very truly yours,

T. G. Wilcox, U. S. A.

Washington Barracks, D. C.,
September 19, 1884.

Miscellany.

THE PHYSIOLOGICAL ASPECT OF MESMERISM.

The *Popular Science Monthly* for October contains an article by J. N. Langley, F. R. S., on the above subject. The writings of Dr. Braid and others from the time of the original achievements of Mesmer down to the present time are drawn upon, and an attempt is made to account on physiological grounds for the phenomena of hypnotism. The results of hypnotism in the lower animals are compared with those in man, and it is shown that in the former the possibility of exciting certain parts of the nervous system while the others remain oblivious is less than in man. Regarding the therapeutic possibilities of hypnotism the author says: —

"There can, I think, be no doubt that mesmerism may help, and sometimes cure, persons suffering from certain diseases of the nervous system. It is not in our power to make any accurate statement of the way in which this is brought about; but, since disease may be the result of either an over activity of or an under activity of any part of the central nervous system, it is reasonable to suppose that a beneficial effect will follow the employment of a method which allows us to diminish or increase these activities as we will. This is a side of the question which is of the greatest interest both to physicians and to physiologists — to physiologists, since it bears directly upon the problem of the influence of the nervous system on nutrition. There is good reason to believe that, by directing attention strongly to any particular part of the body, the nutritive state of that part of the body may be altered. The determination of the actual way in which this is brought about is full of difficulties, but the following way is at least theoretically possible: It may be that the nerve-centres connected with the tissue in question are made unusually active, and that they send out nerve-impulses of a trophic nature, that is, impulses which directly control the nutrition of the tissue. The alteration in the tissue caused by its changed nutritive state — its changed *metabolism* — may conceivably be either beneficial or detrimental to the whole organism; it may give rise to a diseased state, or get rid of an existing one.

"The modern miracles of healing, wrought in persons in a state of religious enthusiasm, offer a field for investigating this problem; the field, however, is a particularly bad one, and chiefly because so many people concerned regard any careful examination of the subject as impious. But in mesmerized persons it seems probable that such investigations could be made on a fairly satisfactory basis. Men when mesmerized gradually lose remembrance of those things which they remember when they are awake, but not infrequently other things are remembered which are forgotten in

the waking state.[1] This is normally the case with a person who has been previously and recently mesmerized. He may then remember little else than what took place in the corresponding stage of his previous mesmerization. In a certain state, then, an event or a command will produce in the central nervous system those changes which are necessary for the event or the command to be remembered later, without ever rising to consciousness in the waking condition. Thus, a command to do a particular thing, given to a subject in this mesmeric stage, may be carried out when he awakes, although he is quite unconscious why he does it. We may say that such an act is one of unconscious memory. But it is, I think, something more than this. The subject is usually uneasy and preoccupied until the thing is done; he is, to a greater or less extent, unable to fix his attention on other things; he is, in fact, in a state of unconscious attention to an unconscious memory. This brings us to our point. It suggests that if a subject, in a certain stage of mesmerization, be told that in a few days a sore will appear upon his hand, or, conversely, that a sore already there will disappear, the conditions which accompany conscious expectation and attention will, to a certain degree, be established, and the tropic influence of the nervous system on the tissues may be tested in a manner which puts the experiment fairly within the control of the observer, and, to a certain degree, excludes imposture. Such an experiment has obviously some drawbacks: it would probably only succeed, if it succeeded at all, with a person whose nervous system was in a state of unstable equilibrium; and it can hardly be expected that the effects would be so striking as when conscious expectation is also concerned. Still, observations of this kind are well worth attention, on account of the medical, the physiological, and the psychological issues involved in the results."

The author sums up the results of his observations into the following outline of a theory, which he says is only provisional: —

"The primary condition of mesmerism is an inhibition of a particular mode of activity of the cortex of the brain, in consequence of which the will can no longer be made effective.

"This inhibition may be brought about by nervous impulses coming from certain sensory nerves, as those of sight, touch, hearing.

"It may also be brought about by impulses or changes arising in the cortex itself.

"The inhibited cortex, and probably also inhibited lower centres of the brain, send out inhibitory impulses to all other parts of the central nervous system, so that the mesmerized man or animal gradually passes into a state of torpor, or even of complete anæsthesia.

"The phenomena of the excitable stage of mesmerism are proximately determined by the possibility of exciting any particular centre alone, without exciting at the same time other centres by which its activity is normally controlled. In lower animals this stage is less marked in consequence of a greater interdependence of the various parts of the central nervous system."

[1] A case is recorded by Braid of a woman who, during natural somnambulism — which is almost identical with a state that can be produced by mesmerism — could repeat correctly long passages from the Hebrew Bible, and from books in other languages, although she had never studied any of these languages, and was quite ignorant of them when she was awake. At length, however, it was discovered that she had learned the passages when she was a girl by hearing a clergyman with whom she lived read them out aloud.

REPORT OF A REMARKABLE CASE OF COUGH.

DR. MACCOY reports in the *Medical News* (August 30th) an unusual case of irritative cough, as follows: —

"Mrs. S., aged forty, resident of Philadelphia, the mother of one healthy child, was first seen in December, 1882. At this time she was suffering from an almost continuous, exhausting, irritative cough, accompanied by violent fits of gagging, which had defied all treatment, and which had continued for several years. The patient was very thin of flesh, and her face much care-worn. She stated that her attacks of cough often lasted for hours, and were frequently accompanied by the fits of gagging, which came on after the cough had continued for a short time. Sometimes, after ascending the stairs, gagging would follow, and soon render her helpless. Her debility was so marked after one of these paroxysms that she frequently had to go to bed, and was compelled to remain there for some hours. Between the attacks of coughing and gagging she was rendered most miserable, and was completely debarred from social engagements.

"Examination showed no pulmonary disease. Inspection of fauces revealed marked cicatrices involving most of the posterior pharyngeal wall; extending well down the throat. Laryngoscopic examination at once made manifest the cause of her attacks. On a line with the superior margin of the arytenoidal portion of the larynx, on the posterior wall of the pharynx, was a horizontal cicatricial band extending well across the pharynx, about one eighth of an inch in diameter, the ends of which spread out in a fan-shaped manner, the fibres being lost in the tissues on each side. This band was so placed that the free edge of the epiglottis was touched by it while rising and falling, and readily explained the cause of the cough. The gagging was brought about by interference with the free action of the vertical and circular muscular fibres of the pharynx, as well as by impingement of the free edge of the epiglottis.

"The *specific* action (undoubtedly the cause of the destructive change) had long since ceased. While there was no direct history of syphilis, there was a history of a severe attack of ulcerative disease many years before, which she states her physician called diphtheria. No lesions of syphilis excepting those found in the throat were visible.

"The treatment consisted in dividing the cicatricial band with the galvano-cautery knife *vertically*, and dilatation. The first operation was not attended by perfect success owing to the incision being too near the median line. A few weeks after the first operation a second incision was made on the left side much longer and deeper than the first one. This effort was eminently successful. For six months there was absolutely no return of cough and gagging. Quite recently there has been some return of her attacks from neglect to keep up the dilatation. Another operation of multiple incisions was made a few months ago, which again completely relieved her. With occasional dilatation it is probable that the result will be perfect, but without it contraction will certainly occur in time (as is so well known), and the result will not be so satisfactory as it now is."

The author speaks favorably of the adaptability of the galvano-cautery knife for the relief of this condition, in fact is unable to see how the operation could have been performed so safely and so well by any other method.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 6, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	665	345	34.88	15.48	23.46	2.70	1.20
Philadelphia	927,995	386	152	22.10	13.60	6.50	3.90	5.20
Brooklyn	644,526	353	201	32.98	16.31	26.23	.35	.70
Chicago	632,100	251	147	40.56	5.46	25.35	3.90	4.68
Boston	423,800	228	121	40.04	15.40	29.04	2.20	2·64
Baltimore	408,520	146	72	28.70	10.50	14.70	2.10	6.30
St. Louis	400,000	151	58	28.29	11.73	13.80	4.23	3.06
Cincinnati	272,400	116	47	18.92	12.04	11.18	2.85	3.44
New Orleans	234,000	131	41	33.44	9.12	9.12	3.04	1.52
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	93	48	23.54	14.98	14.98	3.21	1.07
Pittsburg	180,000	78	45	51.20	7.68	32.00	8.96	6.40
Milwaukee	142,400	74	54	45.90	4.05	36.45	2.70	—
Providence	119,405	46	28	41.23	8.68	36.89	2.17	—
New Haven	62,882	23	8	26.10	8.70	8.70	8.70	8.70
Nashville	54,400	14	5	50.00	7.14	21.42	14.28	14.28
Charleston	52,286	28	9	32.13	14.28	10.71	3.57	7.14
Lowell	71,447	35	16	31.46	14.30	20.02	2.86	2.86
Worcester	69,442	33	20	42.42	15.15	36.36	—	3 03
Fall River	62,674	40	27	45.00	22.50	42.50	—	—
Cambridge	60,995	32	14	40.69	15.65	28.17	—	6.26
Lawrence	45,516	18	10	27.77	—	22.22	—	—
Lynn	44,895	8	1	25.00	12.50	12.50	—	—
Springfield	38,090	—	—	—	—	—	—	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	15	10	46.66	—	33.33	—	—
New Bedford	30,144	15	8	53.33	13.33	46.66	6.66	—
Salem	29,503	13	7	38.45	15.38	38.45	—	—
Chelsea	24,347	6	4	66.66	—	66.66	—	—
Taunton	22,693	6	0	—	—	—	—	—
Gloucester	21,400	11	6	—	9.09	—	—	—
Haverhill	20,905	7	2	14.28	14.28	14.28	—	—
Newton	19,421	1	1	—	—	—	—	—
Brockton	18,323	1	1	—	—	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	8	3	25.00	25.00	25.00	—	—
Fitchburg	13,433	3	1	66.66	—	66.66	—	—
Ninety-five Massachusetts towns	373,498	92	37	32.70	13.08	26.16	3.27	2.18

Deaths reported 3127 (no report from Buffalo): under five years of age, 1549; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 927, diarrhœal diseases 535, consumption 351, lung diseases 158, diphtheria and croup 103, typhoid fever 91, whooping-cough 59, malarial fevers 45, scarlet fever 31, cerebro-spinal meningitis 27, measles 21, puerperal fever six, erysipelas five, small-pox three, yellow fever one. From *whooping-cough*, New York 16, Brooklyn 14, Boston 12, Chicago five, Philadelphia four, Baltimore three, St. Louis, New Orleans, Pittsburg, Milwaukee, and Cambridge one each. From *malarial fevers*, New Orleans 22, Brooklyn 10, St. Louis five, New York four, Baltimore two, Philadelphia and Charleston one each. From *scarlet fever*, New York eight, Philadelphia four, Chicago, District of Columbia, and Milwaukee three each, Boston and Baltimore two each, St. Louis, Cincinnati, New Orleans, Pittsburg, Lowell, and Lawrence one each. From *cerebro-spinal meningitis*, Philadelphia 15, St. Louis three, New York two, Chicago, Cincinnati, District of Columbia, Charleston, Lowell, Worcester, and Holyoke one each. From *measles*, New York and Chicago eight each, Brooklyn two, Pittsburg, Milwaukee, and Fall River one each. From *puerperal fever*, New York, Brooklyn, St. Louis, Providence, Cambridge, and Holyoke one each. From *erysipelas*, Brooklyn two, Baltimore, Charleston, and Brookline one each. From *small-pox*, New Orleans two, Philadelphia one.

Cases reported in Boston: scarlet fever 26, typhoid fever 14, and diphtheria 12.

In 112 cities and towns of Massachusetts, with an estimated population of 1,356,032 (estimated population of the State 1,955,104), the total death-rate for the week was 22.10 against 19.75 and 22.24 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending August 23d, the death-rate was 25.6. Deaths reported 4293: infants under one year 1670. Deaths in London 1579: acute diseases of the respiratory organs (London) 157, diarrhœal diseases 995, whooping-cough 77, measles 71, scarlet fever 67, fever 53, diphtheria 24, small-pox (London 21, Sunderland three, Liverpool, Sheffield, and Birkenhead one each) 27. The death-rates ranged from 17.4 in Bristol to 39.3 in Preston; Birmingham 32.5; Bradford 21.9; Leeds 32.8; Liverpool 30.5; Manchester 31.5; London 20.5; Nottingham 32.5; Sheffield 34.2. In Edinburgh 14.6; Glasgow 26.6; Dublin 30.3.

For the week ending August 16th, in Berlin there were 845 deaths. Diarrhœal diseases 103, consumption 82, diphtheria 32, whooping-cough 17, measles four, scarlet fever four. Death-rate for the week, 35.3.

For the week ending August 23d, in the Swiss cities there were 56 deaths from diarrhœal diseases, consumption 41, typhoid fever nine, lung diseases five, diphtheria five, whooping-cough three, small-pox, measles, and puerperal fever each one. The death-rates were, at Geneva 17.3; Zurich 17.7; Basle 17; Berne 20.

For the week ending August 14th, in Paris, there were 42 deaths from typhoid fever, diphtheria and croup 36, diarrhœal diseases 272, whooping-cough 13. The death-rate was 27.8.

The meteorological record for the week ending September 6th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date. August–Sept., 1884.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 31	29.771	68	77	64	97	95	74	89	SW	E	NW	5	4	10	O	O	C	—	—
Mon., 1	29.951	65	76	55	75	65	74	71	W	W	W	8	15	8	C	C	C	—	—
Tues., 2	30.133	66	77	54	50	54	79	61	SW	SW	SW	4	5	5	C	C	C	—	—
Wed., 3	30.077	73	86	58	84	59	88	77	SW	SW	W	11	15	9	C	C	C	—	—
Thurs., 4	30.112	77	94	69	83	65	87	78	SW	SE	W	6	6	7	C	C	C	—	—
Fri., 5	30.077	80	90	71	74	51	58	61	SW	W	W	10	12	4	C	C	F	—	—
Sat., 6	29.971	77	88	66	65	39	80	61	W	SW	W	2	11	9	C	O	C	—	—
Mean, the Week.	30.013	72	84	62				71										0.45	0.37

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM SEPTEMBER 13, 1884, TO SEPTEMBER 19, 1884.

CALDWELL, D. G., major and surgeon. Granted leave of absence for one month and twenty days, to commence about October 15, 1884. S. O. 95, headquarters Division of the Missouri, August 16, 1884.

CRONKHITE, HENRY M., captain and assistant surgeon. From Department of the Platte to Department of the Missouri.

TAYLOR, ARTHUR W., first lieutenant and assistant surgeon. From Department of the Missouri to Department of the Platte. Paragraph 1, S. O. 215, A. G. O., September 13, 1884.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Assigned to duty at Fort Sisseton, D. T. S. O. 99, Department of Dakota, September 6, 1884.

OBITUARY.

DIED, — In Boston, September 17, 1884, Howard Franklin Damon, M. D., M. M. S. S., aged fifty-two years five months.

AMERICAN GYNECOLOGICAL SOCIETY. — Programme of the Ninth Annual Meeting, to be held at the Palmer House, Chicago, Tuesday, Wednesday, and Thursday, September 30, and October 1, and 2, 1884. Physicians are cordially invited to attend the sessions.

First Day, Tuesday, September 30th. Morning Session at ten o'clock. Roll Call, Reception of Guests, etc. Papers: (1.) Moot Points in Regard to Inversion of the Uterus, by Dr. John C. Reeve, of Dayton, O. (2.) Foreign Bodies in the Abdomen after Laparotomy, by Dr. Henry P. C. Wilson, of Baltimore. (3.) Abdominal Section: its Value and Range of Application, by Dr. C. D. Palmer, of Cincinnati. Adjournment at one P. M.

Afternoon Session at three o'clock. (4.) The Hygiene of Pregnancy, by Dr. Samuel C. Busey, of Washington. (5.) Rapid Dilatation of the Cervical Canal, by Dr. William Goodell, of Philadelphia. (6.) Cervical Fibroids as a Cause of Dystocia, and their Removal by Vaginal Enucleation, by Dr. Paul F. Mundé, of New York. Adjournment at five P. M.

Second Day, Wednesday, October 1st. Morning Session at ten o'clock. (7.) The President's Address. The Present Aspect of the Puerperal Diseases, by Dr. Albert H. Smith, of Philadelphia. (8.) A Further Report upon Extra-uterine Pregnancy, embodying Six Cases, by Dr. T. Gaillard Thomas, of New York. (9.) A Case of Tubal Pregnancy, with Rupture of the Sac, by Dr. R. B. Maury, of Memphis. Adjournment at one P. M.

Afternoon Session at three o'clock. (10.) The Limits of Vaginal Hysterectomy for Cancer, by Dr. Paul F. Mundé, of New York. (11.) Some Remarks on the Occipito-posterior Position in Vertex Labors, with an Analysis of Thirty-five Cases, by Dr. Edward Warren Sawyer, of Chicago. (12.) A Rare and Fatal Form of Sepsis without Symptoms, by Dr. George J. Engelmann, of St. Louis. Adjournment at five P. M.

Business Meeting at 8.30 o'clock, with closed doors. Report of the Treasurer and Auditing Committee. Action on proposed amendments to the Constitution and By-laws. Election of officers for 1884–85. Nominations for honorary and active fellowship by the Council, and balloting on the same. Report of the Committee on Publication. Adjournment of the Business Meeting.

Third Day, Thursday, October 2d. Morning Session at ten o'clock. (13.) The Physiognomy of the Vulva as a Sequence of Anal Disease, and the Cause or Sustaining Cause of Uterine Disease, by Dr. Isaac E. Taylor, of New York. (14.) The Early History of the Treatment of Vesico-vaginal Fistule in the United States, and the Statistics of the Several Modes of Operating, by Dr. Nathan Bozeman, of New York. (15.) Periodical Symptoms in Uterine Disease, by Dr. George J. Engelmann, of St. Louis. Adjournment at one P. M.

Afternoon Session at three o'clock. (16.) Contributions to the Topographical and Sectional Anatomy of the Female Pelvis, by Dr. David Berry Hart, of Edinburgh. To be read by Dr. Alexander J. C. Skene, of Brooklyn. (17.) Fibro-myomata and Fibro-cystic Myomata of the Uterus: their Diagnosis, Prognosis, Pathology, and Treatment, with Cases and Specimens, by Dr. R. Stansbury Sutton, of Pittsburg. (18.) On the Ring of Bandl, by Dr. William T. Lusk, of New York. Adjournment at five P. M.

BOOKS AND PAMPHLETS RECEIVED. — Pathologie und Therapie der Frauen-Krankheiten, nach den in den Feriencursen gehaltenen Vorträgen bearbeitet von Dr. August Martin, Docent fur Gynäcologie an der Universität Berlin. Mit 164 Halzschnitten. Wien und Leipzig. Urban & Schwarzenberg. 1885.

Osteotomy and Osteoclasis for Deformities of the Lower Extremities. By Charles T. Poore, M. D. New York: D. Appleton & Co. 1884.

Atlas of Female Pelvic Anatomy. By D. Berry Hart, M. D., F. R. C. P. E. New York: D. Appleton & Co. 1884.

Catalogue of the National University, Law Department, Medical Department, Dental Department: Washington, D. C. 1884–85.

Later Antiseptics in Private Surgical Practice. By Dr. Powell, Edgar, Ont. Read before the Ontario Medical Association. (Reprint.)

Removal of a Piece of Iron from the Vitreous Chamber by means of the Magnetic Needle. By Julian J. Chisholm, M. D. (Reprint.) Baltimore. 1884.

A System of Human Anatomy, including its Medical and Surgical Relations. By Harrison Allen, M. D. Section VI. Organs of Sense, of Digestion, and Genito-Urinary Organs. Philadelphia: Henry C. Lea's Son & Co. 1883.

Grundriss der Operativen Geburtshilfe für praktische Arzte und Studirende. Von Dr. Friedrich Schauta, O. O. Professor der Geburtshilfe und Gynecologie an der Universität Innsbruk. Mit 30 Holzschnitten. Wein und Leipzig: Urban & Schwatzenberg. 1885.

Henke's Atlas of Surgical Anatomy. A Series of Plates Illustrating the Application of Anatomy to Medicine and Surgery. Translated and edited by W. A. Rothacker, M. D. Cincinnati: A. E. Wilde & Co.

Original Articles.

THE EXTERNAL APPEARANCES OF PISTOL-SHOT WOUNDS.

BY D. B. N. FISH, M. D., OF AMHERST.

As by far the greater number of gun-shot wounds that come to the notice of the medical examiner are those caused by pistols or revolvers, I shall confine myself almost exclusively to a consideration of the wounds made by these "weapons of luxury," as they have been so fitly termed.

I have drawn freely from the works of Casper, Ogston, Taylor, Woodman and Tidy, Hofmann, Briand and Chaudé, and others, at times even using their language without always indicating the source from which it is drawn.

When called to view the dead body of a person supposed to have come to his death from gun-shot wounds many questions will present themselves to the medical examiner that may depend for their solution entirely upon the evidence found upon the body itself. He will have to decide whether the death has been accidental, homicidal, or suicidal. If homicidal, it may be important to determine at what distance, with what weapon, and from what direction the fatal shot has been fired.

The trajectory of the bullet through the organic tissues is subject to many and unforeseen variations; it may happen — as it has to so astute an observer as Casper — that the ball cannot be found even at the autopsy, and one may be forced to form an opinion from the external appearances alone of these pistol-shot wounds.

Let us remember at the outset that "death makes disappear many of the phenomena of color, and brings about a relaxation of the parts which may change the dimensions of the wounds, or the situation of the wounded organs."

These wounds, under the force of ever varying conditions, are very different in appearance and extent; their appearances are far from having an absolute value, and "their significance is largely dependent upon the experience and acuteness of the observer."

The resistance of the air, modified, perhaps, by prevailing winds, the difference in length and calibre of the barrel of the weapon, the difference in the quality of its workmanship and even in its condition by reason of proper care or the want of it, the quantity and quality of the powder used, the shape and weight of the missile, all tend to make the problems more difficult of solution.

The wound made by a ball penetrating the body may present an appearance like that of Braun's "cuts of a lancet," or his "mere scratch," which had healed by first intention; or like Hofmann's wound of the scalp, "so slight, that having escaped detection at the first examination, it was only revealed at the autopsy;" it may be a smooth, round opening, — large or small, — an oval wound, or a valvular one; it may have a starred or a serrated outline, or may be irregular and torn giving to an otherwise simple wound a frightful appearance.

"In general, a bullet preserving its integrity, impinging at ordinary range and at a right angle upon any portion of the body well covered with soft tissues and not unnaturally put upon the stretch, leaves, as it passes through the skin, an opening more or less regularly rounded in form, often, perhaps, a little less in diameter than the missile, with its edges inverted and livid in hue, due to the contusion and to the discoloration from the burned powder carried upon the missile. A cylindro-conoidal ball will probably cause an irregularly outlined opening either stellate or slit like with serrated edges. If the ball has traversed the body, the wound of exit may closely resemble that of entrance, but is usually larger and more irregular, with everted edges, bearing few evidences of contusion, but often showing greater loss of substance." [2]

"The wound of entrance is large and irregular when a ball strikes near the extremity of its range."

When a spherical bullet is fired from some distance and has lost but little of its momentum it usually makes a round, well-defined opening, while a conical ball frequently causes a linear incision; this is true especially of revolver-shots, which may produce wounds, very insignificant, similar to knife-cuts. The aperture is made with comparatively little bruising or tearing, and the resilient tissues close upon its track.

As a rule the entrance will be round only when the ball strikes at right angles; it will be oval or valvular when it strikes obliquely, but it sometimes happens that a conical ball from an inferior weapon, even when fired at right angles to the body, strikes wholly or partly upon its side according to the distance from which it is fired, thus always making an oval wound. A revolver in my possession at any distance beyond eighteen inches throws a ball flat-wise; within this distance it strikes partly upon its side, never upon its apex.

"Fired at a moderate distance but so near as to traverse the body, the orifice of entrance will be well-defined, round, or oval according to circumstances, — the skin slightly depressed, — the edges presenting a faintly bruised appearance; but the surrounding parts are neither blackened nor burnt, and they do not present any marks of bleeding. In these cases the orifice of exit is large and irregular, the skin lacerated but free from any appearance of blackening or burning; it is generally three or four times as large as the entrance orifice." [3]

In regard to the comparative size of these wounds of entrance and exit various and contrary opinions have been held by both surgical and medico-legal writers. On the one hand we have Woodman and Tidy claiming that "the exit wound is invariably the larger," while Casper as positively asserts that "the *wound of exit* is always smaller than the *wound of entrance*." It is probably safer to follow the middle path with those writers who teach that, in general: —

In shots fired from a distance the aperture of entrance will be the smaller. [As most gun-shot wounds observed by army surgeons are of this class, this may account for their unanimity of opinion that the orifice of entrance is the smaller.]

In shots from a short distance the two apertures will be alike.

When fired close to the body the wound of entrance will be the larger.

[1] Read at the meeting of the Massachusetts Medico-Legal Society, February 6, 1884.

[2] Otis, Med. and Surg. Hist. War of Rebellion, Surg., vol. iii., p. 711.

[3] Taylor's Principles and Practice of Medical Jurisprudence, i., p. 685.

It must be remembered that these are general rules, subject to many modifications.

Wounds of entrance made by revolvers and pistols will be smaller than those made by weapons of larger calibre; they will also probably be smaller when made by the cylindro-conoidal bullet, now so commonly used, than when made by a spherical ball. Small pocket revolvers, says Hofmann, give rise when they wound the skull only to a small opening whence radiate cracks in different directions.

The bleeding is usually slight, and when it occurs it is more commonly observed from the orifice of exit than from that of entrance.

As a rule the edges of the aperture of entrance will be inverted and those of exit everted, but Casper shows that this is not invariably so. He says: "If the part struck be very fat, the fat soon protrudes from the wound and it — the aperture of entrance — is found to have its edges swollen and anything but inverted. In other cases the putrefactive process causes the edges of both wounds — where two are present — to protrude, and so prevents their being recognized either as apertures of entrance or exit."

Hofmann says: "The assertion that the edges of the aperture of entrance are inverted and those of exit everted is correct in many cases, but not in all. In wounds from shots fired near by, the edges of the aperture of entrance are almost always everted when there happens to be bone beneath the wounded surface, because the gases of explosion are diffused between the skin and the bone beneath; the edges of the wound are crowded outward and may even be lacerated in this manner." [A statement which does not accord with my limited experience in such wounds.] "What proves this method of production of the ragged edges and rents," Hofmann goes on to say, "is this fact: that the edges of the aperture of entrance, whether this be irregular or rounded, are almost always undermined, and the subcutaneous tissues are blackened by powder to an extent corresponding to the parts undermined."

I hope to demonstrate further on that in pistol and revolver shots these gases of explosion, instead of passing with the ball through the skin, expend the greater part of their force upon the tissues at a point outside of the opening made by the ball. I can see that some particles of powder may cling to the ball and explode after passing through the skin. For, in firing a Colt's revolver at twenty-eight inches, several grains of powder passed, probably with the ball, through blotting paper and sprinkled the ash left after burning around the hole made by the ball in a second sheet of paper which was placed four inches behind the first one.

Medical Examiner S. D. Presbrey has furnished me the following notes of an interesting case which appear to demonstrate this possibility more clearly than do my own experiments: "An old man loaded a 'cut-off' musket with powder and shot, — both in large quantities, — put the muzzle to his stomach and fired. The cotton shirt had a hole, with burned edges, irregularly circular, four inches in diameter. Next, a thick woolen shirt had a ragged hole about one inch in diameter. Some few shot-holes to be noticed about the edges of this hole; edges scorched but not burned like cotton shirt. Next, a cotton-wool undershirt with a ragged hole similar to the one last described. Skin blackened with powder for a space of three inches square. In this blackened space were two *tears* through the skin, making together an opening somewhat like the letter T, its horizontal measuring two inches, its perpendicular, or rather, oblique, measuring one inch. The stomach with its appendages was hanging through a large hole in his back, blown out, apparently, by an explosion of powder within the body."

Here the burning powder had passed with the small shot through the cotton shirt, setting it on fire; through the other two shirts with little burning, — as woolen burns much less freely than cotton, — and then had exploded in part upon the body, leaving a blackened surface of larger dimensions than the opening made in the second and third shirts. It is probable that the remaining and by far the larger portion of the powder was carried within the body and caused the appearances of explosion.

Ogston says: "The edges of the entrance will be depressed and contused, the edges of the exit projecting and torn. The entrance will be dry and dark colored, the exit one raw and bloody. There will be loss of substance in the former case, but none in the latter."

The blackened and burned appearance of the edges of wounds of entrance has been variously explained. Otis, as already stated, ascribes it to the contusion and to the discoloration from the burned powder carried upon the missile. Taylor says it arises from the heat and flame of the gunpowder at the moment of explosion. Hofmann declares that it is due less to a burn than to a contusion and excoriation of the edges of the aperture of entrance, for it may be found, although less defined, in shots fired from a distance. Ogston asserts that it may result from a contusion of the wound causing an ecchymosis, or, when the piece is fired close by, from the burning of the powder.

On the other hand, Briand and Chaudé, alone of all the authorities consulted, speak of "the cauterization of the lips of the wound by the heated projectile." They quote Gosselin as describing "furrowed wounds, which present a surface, so to speak, cauterized by the projectile;" also, "cul-de-sac wounds — bleeding more freely, for the projectile, losing in proportion to its penetration of the tissues a notable amount of its momentum and heat, divides the tissues without cauterizing them." Such a heating of the projectile by the flame of the powder and by the friction of its passage seems impossible, as the time of exposure to such influences is too short. A rifle ball travels, on the average, about six hundred and sixty feet a second, and it takes only a few one hundredths of a second to burn over one hundred and fifty grains of powder. Capt. John E. Greer, now chief ordnance officer of the Department of Missouri, who was selected by the War Department, at the request of the Attorney General of New York, to make experiments in firing for use in the famous Billings murder trial in Saratoga County, has stated to me that at no range is the bullet heated sufficiently to burn the skin. His experiments were made with rifles, carbines, and revolvers on paper and on glass. [We probably shall not err greatly if we continue to speak of "a dose of cold lead."] Ogston has said that "as the blackened and scorched appearance of the edges of the entrance wound may be caused in more than one way, its presence or absence has to be accounted for by the history of the case, and is not found to be invariable in its occurrence. Where, as is frequently the fact, the blackening is due to ecchymosis being produced, the production or non-production of

this ecchymosis will account for the extent or absence of the blackening."

Dr. F. H. Hamilton relates the case of a soldier shot in the chest by a sentinel, in which the wound of exit was larger by one half than the wound of entrance, its edges not everted but looking discolored as though blackened by powder. This discoloration he found to be due to a slight extravasation of blood into the tissues under the skin.

"Small shot, fired at a distance," says Dr. Lachese, "of not over ten or twelve inches, may produce a round opening somewhat resembling that made by a bullet; from twelve to eighteen inches the opening was irregular and the borders were much lacerated; at thirty-six inches the central opening was entirely lost and the surface much covered with shot." Briand Chaudé say small shot begin to scatter at thirteen inches, while Dr. Lowe is said to have fired a new gun with the result of a round aperture resembling that of a bullet at a much greater distance than that given by Dr. Lachese.

Grains of powder may act as projectiles when fired at short distances, even penetrating the organs which they reach.

The wadding of a gun, paper pellets, a ball of wax or cork, may make holes like shot or like a bullet when fired from a gun with a large charge of powder at a distance of two or three yards.

The explosion of powder alone, without ball or wadding, is capable of causing very serious wounds, especially when fired into the mouth. When wadding has been used in like circumstances, it is known to have caused extensive laceration of the soft parts with fracture of the bones of the face and the base of the skull. So a pistol fired close to the abdomen, without a ball, has produced a fatal wound from the entrance of wadding alone. A pistol, loaded with powder and ball, may be fired with the muzzle pressed closely against the flesh without the ball touching the body. The weapon will either burst or recoil, and the bullet drop to the ground leaving only a contusion or a slightly contused wound, caused, not by the ball, but by the air within the weapon.

The aperture in the clothing made by the projectile is worthy of consideration. Dupuytren says it is always smaller than the ball; Taylor, that it is smaller when the clothing is of an elastic material. In comparing the size of the aperture and that of the ball, it must be remembered that the bullet may have struck upon its side and not upon its apex, also that the powder may have burned a portion of the clothing around the opening. Ogston says: "At the entrance of the ball, the tissue of whatever kind exhibits a more or less ragged and irregular opening along with loss of substance, while the injury to the stuff caused by the exit of the projectile is not so much a hole as a rent, either straight or shreddy, which will admit the tissue to be so replaced as readily to show that there has been no part of its texture destroyed or carried away. The opening made by the ball in entering is always smaller in the clothes than in the skin."

In firing at several thicknesses of cloth placed against a hard or a soft backing one may often get as many varieties of openings as there are layers of cloth.

Although foreign to the subject, it may be of interest to note the statement of Briand and Chaudé that "when the ball presses the clothing into the wound, taking several superimposed layers of clothing, we frequently find the layers in the inverse order in which we should expect them; for example, we find a shred of the shirt before that of the coat, which can be explained only by a rotary motion, if not forward at least laterally, of the projectile."

Before passing to the appearance of the powder marks let me call your attention to the following facts: —

"Two wounds nearly in a line may both be wounds of entrance, made by two distinct balls, both of which have lodged."

"The wound of entrance and of exit may be side by side, as when the bullet has passed around the body, or there may be only one wound through which the bullet has entered and also escaped."

"A plurality of openings does not necessarily imply a plurality of bullets, for one bullet has been known to make five wounds, — two of entrance and three of exit."

When the weapon has been fired at a distance, for ordinary pistols or revolvers, of probably not more than twelve to fourteen inches, the hair and skin may be singed, burned, or blackened from the burning powder; and at a distance, even for the larger weapons of this class, of probably not over forty-eight inches, unburned and partly burned particles of powder may be imbedded in the flesh.

These powder marks may, within certain limits, aid in estimating the distance at which the pistol has been fired, and the position in which it has been held. In some cases they may even show, with some degree of certainty, whether the weapon has been fired by one's own hand or by the hand of another.

They arise from the smoke, from the heat and flame of the burning gases, from partly burned powder, from the residue or ash of the wholly burned powder, and from partly burned and unburned grains of powder driven into the tissues.

The larger the charge of powder, the longer the barrel of the weapon, and the more finished its workmanship, the more marked will be these appearances; but with a large calibre and short barrel the powder marks will cover a greater extent of surface. Pistols will show these markings, and brandings of powder at greater distances than revolvers of the same calibre, for, having a continuous barrel, there is not that escape of the gases of explosion and of the unburned powder that occurs between the cylinder and the barrel of the revolver.

The most of my experiments have been made with revolvers, because it seems, in these days, when very fair revolvers can be bought for eighteen dollars a dozen, that by far the greater part of the murders and suicides are committed with revolvers using metallic cartridges.

Before detailing my own experiments, let me call your attention to what has been said of these marks of powder by others.

"Dr. Dumesnil," I quote from Hofmann, "found, in firing at pieces of white kid, that at thirteen centimetres (five inches) the tattooing and even the burning produced by the powder will remain, easily to be shown even after washing. It is very probable it will most always be the same" — upon white kid I suppose him to mean — "at twenty centimetres (7.87 inches). At thirty centimetres (11.8 inches) the traces diminished considerably; they nearly disappear at fifty centime-

tres (19.7 inches); and at eighty centimetres (31.5 inches) hardly a trace is to be seen.

"What disappears in the first place — passing from near shots to those fired at a distance — is the immediate action of the gases of explosion, which, even at short distances, are absent, and this in proportion as the charge is smaller; sooner for revolvers than for pistols, sooner for pistols than for guns.

"Tourdes, with a holster pistol" [the French holster or cavalry pistol is said to be of .45 of an inch calibre], "set on fire a piece of paper at one half a metre (19.7 inches), and we have observed burning of hair from a revolver nine millimetres in diameter (.35 of an inch calibre) fired from a distance of ten to fifteen centimetres (four to six inches). He also found an incrustation of grains of powder from a holster pistol at two metres (78.5 inches); from a great American revolver at one and one half metres (fifty-nine inches); from an ordinary revolver at forty centimetres (15.7 inches)."

Briand and Chaudé say: "Powder blackens the surroundings of the wound to an extent of several centimetres, and grains of powder incrust themselves in the circumference of the wound. Powder driven from a barrel burns on leaving it at a distance equal to the length of the barrel of the weapon; the burning wad is carried much further."

My own experiments do not accord with this statement, as a cheap revolver, with a four-inch length of barrel and cylinder, calibre .32 long, will burn cotton-batting at a distance of seven and one half feet, the burned spots appearing at a little distance from the entrance of the ball. It will scorch cotton cloth at a distance of five feet; bibulous paper at six feet. In certain other experiments the paper was set on fire at three feet, and several grains of powder had penetrated six layers of the paper; at thirty inches two holes were burned through the six thicknesses.

A Colt's revolver, old style, .32 calibre, six-inch barrel, with thirteen grains of "Duck powder, No. 4," burned cotton-batting at a spot two and one half inches from the entrance of the ball at eight feet. At two feet the batting was all on fire. Fired at seven feet it burned two holes the size of the ball through tissue paper. These holes were at some distance from and above the opening made by the bullet.

Resuming the extract from Briand and Chaudé, — "Experiments made with a holster pistol fired at hair on a sheet of paper have shown, at one metre, the paper blackened by some grains of powder; some had penetrated the paper. The hair had no trace of burning. Contour of holes made by the balls not blackened. At sixty-five to forty-eight centimetres (25.5 to 19 inches) the hair had not been burned nor the paper blackened at the entrance of the ball, but the black points and little holes made by the grains of powder were numerous. Ten shots at sixteen centimetres (6.3 inches), edges of hole extensively blackened to width of thirty-five to forty millimetres (1.38 to 1.57 inches). Several times the paper took fire. The hair always burned more or less completely."

Casper says: "These scorchings and brandings with powder only prove that the shot has not come from any great distance, that is, . . . from a distance not greater than from three to four feet."

The most explicit statement that I have seen appears in The New Dictionary of Medicine and Surgery, Paris, 1866, in which it is said that "The charring and burning of the vicinity of the wound, seen only at entrance, are always seen in shots at sixteen centimetres (6.3 inches); very nearly always from sixteen to thirty-two centimetres. Beyond this up to one metre there is no longer burning, but we may still find black grains incrusted around the wound. At sixteen centimetres paper takes fire frequently, hair always."

In regard to the blackening of the edges of the aperture of entrance in paper and cloth as well as in the flesh, experiment leads me to conclude that a part at least of this is due to the smut of the barrel — which even in the best revolvers becomes very great after repeated firing — and to the powder which clings to the ball because the latter is greased before firing. With a perfectly clean bullet fired from a clean and dry barrel the hole in the paper appeared free from any blackening; with a clean ball and an oiled but otherwise clean barrel there appeared slight smutting; with a greased ball, and especially after the piece had become foul, the blackening of the edges of the hole was very marked.

Nearly three years ago, while making some experiments in firing at short range, I noticed, in addition to the smutting of the paper by smoke, and to the marks of the partly burned and the unburned grains of powder distributed around the bullet hole, one spot, blacker and more burned than the rest. I found this was caused by the flame of the gases, by the burning powder, and by the residue, or ash, of the burned powder striking and resting upon this place. I also noticed that this burned and blackened spot held a most constant position directly above, or above and a little to one side of the bullet hole. Asking for the reason of this, I was told by an officer of the United States Ordnance Department that "as the velocity of the powder gases was greater than that of the ball, powder stains are found above rather than below the bullet hole." Thinking this might give some indication of the direction from which the shot was fired, I tried in later experiments to vary its position by firing at different angles, but with little or no effect.

Firing the pistol from either side, from above or from below the paper, the mark was still above the bullet hole, though its lower border sometimes came down to the level of the lower border of the opening made by the ball. After wasting much paper and ammunition it occurred to me to turn my pistol hammer down, that is, bottom side up. Now this spot appeared directly below the bullet hole, and I had a most pleasing solution of what had so long perplexed me.

I could put this spot on any spoke of the wheel of which the bullet hole represented the hub, simply by holding the pistol so that its hammer and sight were on a line with that spoke. Turning the pistol flat upon its side, with the hammer to the right, the spot appeared upon the right of the bullet hole; turning it hammer left, the mark was at the left of the hole.

The position of this burned or burned and blackened spot, varying constantly and varying exactly as the top or hammer of the pistol is turned on the long axis of its barrel, is due neither to the kind of weapon nor to the kind of ammunition used. Over two hundred experiments with seventeen different pistols and revolvers — rifled and smooth-bore of various calibres — fired with "loose ammunition," that is, powder and ball separate, or with rim-fire or centre-fire metallic cartridges, have failed to show any deviation from this result. It is due solely to the recoil of the muzzle of the weapon



This plate shows four shots made on dressed sheepskin from a Smith and Wesson new revolver, calibre 32, short, 6-inch range, with four positions of the hammer. The shot at the top was made with the hammer up, that at the bottom with the hammer down, those at the right and left sides with the hammer respectively right and left. Three fourths full size.

in the direction of its sight. When this recoil is prevented by fixing the weapon firmly in a vise the bullet hole will appear at or near the centre of the spot instead of at one side of it. This is well shown by the results of some seventy-two experiments kindly made for me, with the permission of the commanding officer of the National Armory at Springfield, Mass., by Mr. J. F. Cranston, an expert at the Armory. Of the seventy-two shots with three different weapons thirty-six were made with the pistols in a vise; each pistol was fired in four positions of the hammer — up, down, to the right, and to the left — at ranges of four, ten, and twelve inches; in no case did the mark appear at one side of the bullet hole. Of the thirty-six shots with the three weapons held in the same positions as before but held in the hand, at the same ranges, none that showed the mark plainly failed to show it at one side of the bullet hole and on a line with the hammer and sight.

It is barely possible that a pistol will be found in which the centre of gravity or of mass is so far forward on the line of its barrel that the recoil will be *downward* when held in the usual position for firing, but I am assured by gun dealers and manufacturers that, though rifles are sometimes so weighted at the muzzle, by brazing on a piece of iron, as to prevent the recoil upward, no pistols are made that do not thus recoil.

I have seen no allusion to the appearance and position of this spot in any work I have consulted, and have met no one who has ever noticed it.

I offer you, then, what I believe to be a new and almost infallible rule for determining the *position of the weapon*: —

Whenever this burned, or burned and smutted, spot is found, either upon the skin, the hair, or the clothing, at one side of the wound made by the bullet, by placing the muzzle of the weapon upon the wound so that the line of the hammer and sight will meet a line drawn from the centre of the wound through the centre of the spot of burning, or of burning and smutting, you will have the exact position of the weapon when it was fired. By position of the weapon I do not mean the distance at which it was fired, nor its angle to the body; the latter does not

seem to modify the rule I have given. As some revolvers of large calibre and short barrel will sometimes produce the greatest smutting opposite the point of greatest burning, the latter must be understood in such cases as the spot to which this rule is to be applied.

It will occur to you that there are many positions in which a suicide could not, or would not, hold a weapon for the purpose of shooting himself, because he could not hold it firmly enough to be sure of inflicting a mortal wound. If this *brand*, if I may so designate it, is found either upon the skin, the hair, or the clothing, showing one of these positions of the weapon impossible or improbable for a suicide, it is reasonably certain that the case is one of homicide and not of suicide. No suicide, for instance, would hold a pistol to either the side or back of his head with the hammer and sight pointing forward, or forward and downward, nor would he hold it to his heart with the hammer pointing downward and inward, or downward and outward; nor to his side pointing backward.

Moreover, if this *brand* is found in certain positions relative to the bullet wound, — such as forward and downward at the back of the head, or downward on the back, or downward and inward on the chest, — we may feel sure that the victim has not only been shot by another, but has been shot while lying down, or at least while in a reclining position; for no man who intends to shoot another holds his weapon upside down. While standing over the prostrate body he may easily fire so as to leave the *brand* of the powder upon any side of the bullet wound.

It is possible that in a struggle for the possession of a pistol it may be accidentally fired in one of these unnatural positions, but even then the very fact of its being held in such a position might be of importance in corroborating a claim that it was fired accidentally.

In testing for impossible or improbable positions of the weapon it should be cocked, as the hammer will thus interfere with positions that might otherwise appear possible.

Let me say here that among the illustrations of the rule given some will be found which apparently do not exactly conform to the given position of the hammer; this is due solely to the fact that in firing at such short range it is difficult to hold the weapon in just the position intended on account of the great sense of danger to the eyes from the rebounding grains of powder.

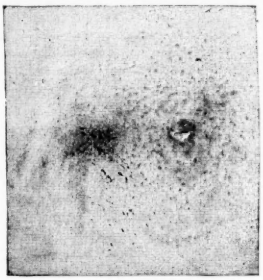
For the better preservation of these illustrations



Smith and Wesson 32, 6 in., hammer right.

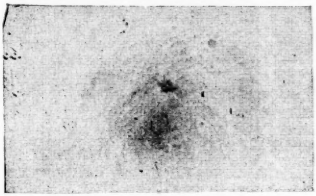
Mr. Charles O. Lovell, of Lovell's Photographic Gallery, has generously enabled me to present herewith excellent photographs of some of the best of them. The illustrations which accompany this article are photographic reproductions of the original shots, reduced in size.

From the few experiments I have made, I believe



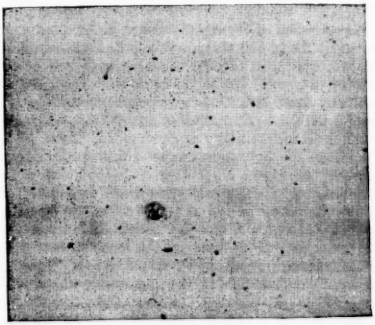
Union 38, 6 in. range, hammer left.

that the statement already quoted that "the charring and burning of the vicinity of the wound are always seen in shots at sixteen centimetres (6.3 inches), very nearly always from sixteen to thirty-two centimetres,"



Smith and Wesson 32, 8 in., hammer down.

will be found true in the case of shots fired from revolvers and pistols. One of .22 of an inch calibre, short, will probably show the powder brand plainly at four to six inches; a .32, short, at six to eight inches; a



Union 38, 36 inch range.

.38 at eight to ten inches; and a .44 at ten to twelve or thirteen inches. These figures are, of course, to be taken with a great deal of caution, as further observation may prove them to be erroneous.

As the distance of this *brand* — which always follows the line of the hammer and sight — from the entrance wound of the bullet will vary with the "kick" of the pistol and with the degree of firmness with which it is held, it is not probable that anything can be learned from this of the distance at which the shot has been fired. Neither have I been able, as yet, to draw any inference from the size of these powder marks as to the distance of the weapon.

Hair, unless it is wet or very oily, will show marks of burning at six inches with even the smaller revolvers and pistols; at eight to ten inches with a .38, and at twelve to thirteen inches with a long barreled .44 revolver.

The powder marks upon the clothing will, by comparison with the results of experiments upon the same material made with the weapon and with ammunition similar to that used, furnish the criteria by which the distance may be judged.

I have found that upon broadcloth the spot or *brand* can be distinguished with care at fourteen inches with a .44 revolver; at nine to twelve inches with a short barreled .38; at eight inches with a .32 long; and at six to eight inches with a .22 and .32 short.

White flannel cloth will be scorched and singed so as to define the position of the hammer at twelve inches with a .32 long; at fourteen inches with the same weapon this could not be detected.

On cotton cloth at twelve inches with a Smith and Wesson .32 short this powder brand was plainly visible even after vigorous rubbing; with a Robin Hood, fired with a .32 short cartridge, the scorching and smutting were much less marked, the latter being an inferior weapon with corroded barrel. At fourteen inches with a Colt's army .44 the *brand* was well defined.

It will be seen that I have placed the tissues upon which this powder brand will appear in the following order: first — at the longest range — cotton and woolen cloth; next, the skin; and last, the hair. It is possible that when the skin is moist it may not show the *brand* even when the hair is burned.

Of the marks left by the powder upon the skin there remains for consideration the tattooing caused by the unburned particles of powder driven into the flesh. The proportion of powder wasted varies with the character of the weapon and with the kind of powder used; even in metallic cartridges of the same size it varies with the degree of compression used in fixing the ball. For heavy artillery this waste is over sixty per cent., and from my own experiments I know it to be very great with small arms, especially with the cheaper revolvers. In revolvers a part of the unburned powder escapes between the cylinder and the barrel; in all fire-arms a part of it may never reach the target; of that which does reach it a part rebounds; how much will imbed itself in the skin is so much a matter of uncertainty that it is difficult to determine at what distance a given weapon will present a certain definite degree of tattooing of the skin.

After various and unsatisfactory experiments, none of which were upon the cadaver, I can do no better than to refer again to the statement found in The New Dictionary of Medicine and Surgery, that "beyond .32 centimetres (12.5 inches) up to one metre there is no longer burning, but we may still find black grains incrusted around the wound." Whether the tattooing of the skin can be produced at this distance by pistols and revolvers is not stated; it seems to me very doubtful except in the case of the larger weapons of this class, having a long barrel and carrying a heavy charge of powder.

Neither can I give any definite estimate of the extent of surface covered by the tattooing at different distances. It is possible that in some cases an approximate estimate can be formed by experiments similar to the following made with a weapon with which a homicide had been committed: —

A boy was shot in the forehead with a "Standard" revolver, calibre .32 long. The tattooing measured two inches in diameter. The hair was considerably burned directly above the wound. Experiments with this pistol, and with cartridges similar to the one used, showed that to produce the amount of burning of the hair the weapon must have been held at a distance of six inches or less. Firing at two thicknesses of blotting paper placed upon a hard backing, as many grains of powder perforated the first layer of paper at six inches as at four inches, but to reduce the diameter of the surface perforated to the two inches of the tattooing of the skin the pistol had to be fired at a distance of four inches.

The fact that in very near shots clothing may be set on fire by the deflagration of the powder or by the burning wad is worthy of consideration.

Ogston says: "As to the question of a fire-arm discharged close to the body setting fire to the clothes, and extending from this to any distance along the dress of the party, the French Academy decided after several experimental trials that though the clothing may be set on fire in this way, and the fire spread to a limited extent, yet the burning is usually confined to the borders of the orifice in the dress."

Briand and Chaudé state that "the burning clothing may burn the parts with which it is in contact, but the point of departure of the combustion is always upon one of the points of the circumference of the hole made by the ball. It will not burn to any great extent."

In my opinion it is safe to say that, usually, this combustion will start from that point at the edge of the hole in the clothing which is in a line with the hammer and sight of the weapon, although if this is below the entrance of the ball the greater amount of burning may be above, as the flame would naturally pass upward.

Experimenting upon a worn, light weight broadcloth coat, I have not been able to set it on fire at any range even up to two inches with a .38 revolver; at eight inches several fibres of a cotton pocket were burned in the track of the ball. At seven inches with a Robin Hood .32, the pocket was somewhat burned; at nine inches a .38 Union set on fire the padding of the coat in the track of the ball.

Firing at an old and well-worn box cover, which was stuffed with excelsior and cotton batting and covered with a sleazy curtain damask, a Hood .32, at twelve inches, charred the covering to an extent of one half inch in diameter about the bullet hole; at ten inches five holes were burned in the covering above the bullet hole; at nine inches cotton batting set on fire in the track of the ball; a Colt's .32, at nine inches, fired hammer up, with rifle powder, set fire to the cloth at the upper edge of the hole; this fire burned until it had to be put out to save the target; fired hammer down, it set fire to the lower edge; at eight inches neither Smith and

Wesson's revolver, .22, nor Stevens' pistol, same calibre, produced any burning; at seven inches the Hood, and at five inches the Smith and Wesson's, .22, would always start a vigorous fire.

Such a target as this will give a fine illustration of the fact that the greater part of the flame follows the line of the hammer and sight. After exposing the cotton batting by making an opening in the cloth covering, and then firing shots about the circumference of this opening, with the sight pointed towards it, one can see the burning powder strike in the opening and set fire to the batting, while if the sight is turned away from the opening the flame will very rarely touch it.

In experiments on cotton cloth, at ten inches, with a Hood, .32 short, powder passed with the ball through four thicknesses of cloth, and set fire to the cotton batting in the box cover. At five inches a Whitney, .32 long, set the edge of the hole on fire. A Smith and Wesson, .32 short, set the cloth on fire, and burned a hole six inches in diameter.

Flannel did not burn at five inches.

It has been said that a pistol fired into the mouth has set fire to the portion of the clothing touching the neck, and burned the neck, chest, and chin. The fire extended to the furniture of the room. Such a burning, starting from a point below the entrance of the bullet, would seem very improbable, and would lead to the suspicion that the fire originated from some source other than the discharge of the weapon.

Devergie has stated that at 2.25 inches the shot can set fire to the clothing at the level of the hole made by the bullet, and the combustion may spread to a certain extent.

How shall we decide from these traces left by the projectile and by the powder upon the body and upon the clothing whether death has resulted from accident, from suicide, or from homicide?

It will not be necessary to recapitulate the evidences left by the projectile.

Accidental pistol-shot wounds cannot be distinguished from homicidal wounds when both are inflicted from a distance. In shots fired near by, when one is known to have been shot by another, and to have been shot while standing, an unnatural position of the weapon, as shown by the relative location of the *brand*, will tend to corroborate a claim of accidental shooting. So if one is known to have shot himself an unnatural position of the weapon will show that the shot was probably accidental. The location of the wound and the course taken by the ball may also characterize the wound as accidental.

Homicidal wounds may be far or near, and will be determined by the exclusion of accident or suicide. If there are several wounds upon the body the case is probably one of murder, but both barrels of a two-barreled pistol, or even more barrels of a revolver, may be accidentally discharged at the same time. One bullet, as has been said, may make five wounds, and a would-be suicide has been known to fire five shots into his own body. Suicides generally shoot at the head, — often directing the pistol into the mouth, — less frequently at the heart or lungs, more rarely at the abdomen; yet they sometimes fire at the back of the head. "The murderer more often, unless furious with passion, fires at the back or side of his victim."

If the wound be upon such a part of the body that a suicide would not be likely to inflict it upon himself, or if, as has been stated, the relative location of the aperture of the bullet to the burning of the hair, or of the burning or burning and blackening of the skin or of the clothing, shows that the pistol has been held in a position unnatural for a suicide, it is probable that a homicide has been committed.

If there is entire absence of these scorchings and brandings of powder it will also generally prove that the case is homicidal, but it must be remembered that suicides sometimes arrange contrivances, by means of cords attached to the trigger of the weapon, for shooting themselves from a distance, and that certain "chemical powders" do not leave any stains of the powder.

Casper relates the case of a man who undoubtedly shot himself through the heart, but not a single grain of powder was found on the edges of the wound, the neck, or the face. A like instance has come under my own observation in which a suicide held a pistol, loaded with the ordinary metallic cartridge, so closely to the temple that the blood spurted into the barrel of the weapon, yet there was only the burning of the hair, and a stain of powder smoke just back of the wound, an illustration of the rule already given governing the location of the powder brand.

Briand and Chaudé say that in the case of a suicide by a revolver it is very rare that the muzzle of the weapon, directed towards the head, can be more than twenty centimetres (7.87 inches) distant. Though this distance can be easily increased to even twelve inches by any one with average length of the arms, yet just as the suicide would not hold a pistol in any unnatural position of the hammer and sight of the weapon lest he should fail to inflict a mortal wound, so he will not be likely to exceed this limit of twenty centimetres.

If the bullet is found, its weight should be ascertained, as thereby it may be possible to show that although deprived of a part of its substance it still weighs more than the ball apparently used.

The external appearances of every pistol-shot wound should be studied with care. Then by experiments with the same weapon, and with ammunition similar to that used, it may be possible to determine many points otherwise doubtful, but of vital importance.

I do not know of any substance that has been proved to offer resistance to the impact of powder similar to that presented by the living human skin, and I am forced to leave this for some more fortunate member of our Society to discover. I will, however, venture the opinion that we have in blotting paper, of average thickness, a material of value for comparative experiments. With a target of two thicknesses of this fastened against a board, the surface covered by projections or elevations and perforations appearing upon the posterior surface of the outer sheet, will, I am inclined to believe, show the extent of surface marked upon the skin by powder grains when fired from the same distance. It may also be found that the number of these projections or elevations together with the number of these perforations will be equal to the number of grains of powder imbedded in the skin.

My experiments have been made upon sheep skin, chamois skin, upon the skin of a young calf, and upon the skin of a living cat; also upon blotting paper of various thicknesses, rubber, cotton and woolen cloth.

SUMMARY. The *distance* at which a pistol-shot has been fired may be estimated by the following general rules: —

(1.) From a great distance the entrance wound will

usually be large and irregular; there will be absence of any great degree of lividity of its edges, and absence of the marks of powder. The wound of exit, if one is present, will usually be larger than the wound of entrance. At any distance the edges of wounds of entrance will usually be inverted, those of exit everted.

(2.) From a short distance the entrance and exit wounds will generally be nearly equal in size; the edges of the former will be blackened, and powder grains will be imbedded in the skin, but there will be absence of the scorchings and brandings of powder.

(3.) Close to the body the entrance wound will generally be larger than the exit. There will often be, in addition to the tattooing of the skin by unburned grains of powder, a mark or *brand* made by the flame of the gases and of the burning powder, by the soot of the partly burned powder, and by the residue or ash of the wholly burned powder. As a rule this *brand*, which may consist of a burning alone of the hair, the skin, or the clothing, or of a burning and blackening of the skin or clothing, will appear at one side of the bullet hole.

The *direction* of a shot will be shown in part by the trajectory of the ball, — a subject of which this paper does not treat, — and by the location of the wound of entrance. The character of the opening, whether rounded or oval, may give some indication of the angle at which the weapon has been held.

The *position of the weapon* (and whenever this term is used I wish to be understood to mean not its angle to or distance from the body, but the manner or position in which it is held; that is, whether it is held with its hammer and sight above the barrel, as in the usual position for firing, or with the hammer and sight below the barrel, as when the weapon is turned upside down, or in any other position of the hammer and sight relative to the barrel of the weapon) the *position of the weapon* is to be determined by the following rule: When the *brand* appears upon the hair, the skin, or the clothing at one side of the bullet hole, hold the weapon with its muzzle to the bullet hole so that the line of its hammer and sight will meet a line drawn from the centre of the bullet hole through the centre of the *brand*, and it will show the exact position of the weapon when fired.

This rule is deduced from the newly-discovered fact that, owing to the recoil of the muzzle of the weapon in the direction of its sight, this *brand*, when it appears at one side of the bullet hole, will appear upon that side which corresponds to the side of the hammer and sight in their position relative to the bore or barrel of the weapon. That is, if the weapon is held upside down the *brand* will appear below the bullet hole.

Accidental wounds are generally near wounds. When inflicted from a distance they cannot be distinguished from homicidal wounds. In shots fired near by, when a person is known to have been shot while standing, an unnatural position of the weapon, as shown by the location of the *brand*, will tend to corroborate a claim of accidental shooting. So, if one is known to have shot himself, an unnatural position of the weapon will show that the shot was probably accidental. The location of the wound and the course taken by the ball may also characterize the wound as accidental.

Homicidal wounds inflicted within the suicide limit have heretofore been distinguished from suicidal wounds alone by the location of the wound and by the uncertain evidence presented by the trajectory of the ball. When the location of the wound has been such that a person might easily have inflicted it upon himself there have been no means of determining from its character whether it was homicidal or suicidal. To aid in distinguishing between such wounds I offer the following rule: When the location of the *brand*, relative to the bullet hole, shows that the weapon has been held in a position of its hammer and sight impossible or improbable for a suicide it is probable that a murder has been committed. Certain relative locations of this *brand* may also indicate that the victim has been shot while in a reclining position.

Multiple wounds are usually homicidal, but may be either accidental or suicidal.

Shots fired beyond the usual suicide limit are probably homicidal.

Suicidal wounds. It is said that the suicide rarely holds the muzzle of his pistol at more than eight inches from the body. Suicides generally fire at the side or front of the head, next at the heart; they sometimes fire at the back of the head.

The distance from the body at which the weapon must be held to show the *brand* plainly is probably very nearly as follows: for small pistols and revolvers not over four to six inches; for large weapons of this class not over twelve to fourteen inches.

A CASE OF IMPETIGO HERPETIFORMIS.[1]

BY W. E. BOARDMAN, M. D.

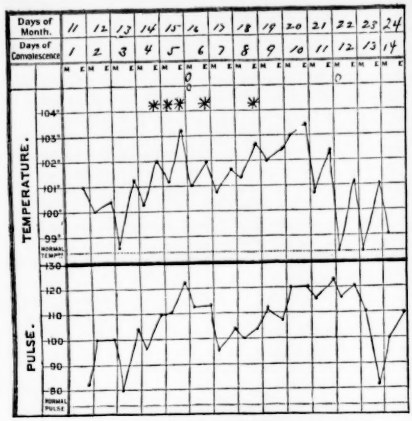
MAGGIE D., single, twenty-six years of age, healthy, was confined at the Boston Lying-In Hospital March 11, 1884, after a labor which was normal in all respects, except that the placenta was extracted, expression having failed to cause its expulsion, and this procedure was followed by a slight hæmorrhage, which, however, was easily controlled.

March 14th, on account of the continued rise in temperature and pulse and offensive lochia, in spite of the usual care and treatment pursued at the hospital in all cases, she was given an intra-uterine injection of corrosive sublimate solution, one to 2000.

Upon the following day this was repeated, morning and evening, and each injection was followed by the insufflation of powdered iodoform within the uterus. The chart indicates a fall in the temperature and pulse beat on the succeeding day, but at evening the injection of the sublimate solution and the insufflation of iodoform were repeated, and the next day gave a morning record of temperature 100.8° F., pulse 95.

Upon the next day (the 18th) the record shows another rise, and the patient complained considerably of pain in the right side and below the breast. Nothing was discovered upon physical examination to explain this, and fearing a renewal of the septic process the former treatment was employed at evening of that day. Upon the following day the chart shows a slight rise, there was continued complaint of the pain in the right side, and an erythematous blush was observed between the thighs and upon the labia. March 20th these parts became the seat of a vesiculo-papular pustular eruption, and the erythema was noticed on the buttocks, upper thighs, lower abdomen, and breasts, rapidly becoming papular, and in some portions, particularly upon the breasts and adjacent portions of the trunk, vesic-

[1] Read before the Society for Medical Observation, May 5, 1884.



NOTE. — * indicates intra-uterine injection; *o* dejections.

ular and papular combined. This eruption gradually became confluent, and the parts first attacked began to scale. Upon the trunk the eruption became confluent and a serous effusion took place, commencing upon the lower abdomen, which raised the epidermis in the form of blebs, gradually increasing in size, flaccid and quickly ruptured, with the escape of a limpid, opaque fluid, non-irritant in character, and leaving the skin without ulceration, but oozing a thin fluid for a time, and of a deep rose-red color, desquamation following in large thin patches. Following essentially a similar order and appearance, the same process gradually invaded the whole surface by peripheral extension. The face, arms, and legs at the height of the inflammatory process presented a notable swelling and induration, which subsided after the rupture of the bullous sacs. In parts, especially upon the scalp, the fore-arms, hands, shins, and feet, the desquamation was largely in the form of thin, dry scales. The patient complained of some itching, which, however, was not excessive; of considerable pain, especially upon movement, where the disease was active. There was great prostration, necessitating frequent feeding and stimulation. The whole process occupied a period of about three weeks, though during the last week the patient was very comfortable, and convalescence rapidly ensued. Treatment: morphia for pain; oleate of zinc to the skin.

Dr. J. C. White very kindly visited the case on March 24th, the sixth day of the affection, and diagnosticated at once impetigo herpetiformis, or herpes impetiginiformis, and recommended the application of vaseline together with a wash of zinc and lime water.

The eruption, the history of which I have given, I fear, very imperfectly, belongs to a very limited series of cases, less than twenty in number, which have been observed and reported within the last twenty years, under various names, for example, herpes gestationis, herpes vegetans, herpes pyæmicus, herpes circinnatus bullosus, herpes impetiginiformis, impetigo herpetiformis, pemphigus pruriginosus, and by some, for example Gibert, it has been called a pemphigus. These various terms evidently have been suggested by different phases of the same disease. Hebra saw only five cases, four of which proved fatal under his observation, and the fifth died under a subsequent attack, according to the evidence of his son. In most of these cases the patients have been women, and the eruption occurred *before* confinement. In a few instances, notably in three of Hebra's cases and in mine, the affection was post partum. Autopsies were made in Hebra's four fatal cases, but they showed no certain causes of death.

Neumann studied the anatomy of some cases and was able to demonstrate a notable dilatation of the vessels, particularly of the veins and lymph channels, an abundant round-celled infiltration of the cutis, and a proliferation of the cells in the parenchyma of the sweat glands.

The ætiology of the disease remains obscure, as it is with pemphigus. Generally it is attributed to reflex nervous disturbances which have their origin in the pregnant state, a theory which is strongly supported by analogy in the case of various affections of the skin during the parturient period. In my case I was at first inclined to trace a connection between the skin affection and the septicæmia, and it occurred to me that possibly it may have been a phase of iodoform poisoning. It is for this reason that I have given a brief account of the patient prior to the appearance of the skin affection. I have been unable, however, to substantiate either of these ideas by any recorded experiences of others. On the other hand several cases have been observed, in men, at least cases which have been considered to be the same disease by competent observers, and while these would not negative the theory that it is dependent upon a neurosis, still they serve to complicate the subject of the ætiology. Syphilis, too, has been suggested as a prime cause. In my case there was no evidence, historical or otherwise, pointing to this, and it may be added that competent observers and investigators have failed to find any evidence sufficient to make this an ætiological factor in the development of the disease under consideration.

With regard to the nomenclature, the weight of evidence appears to favor the name impetigo herpetiformis, which, I believe, was first suggested by Hebra from a study of his cases; though those evidently differed in several points, as to their appearance and mode of development, from cases reported by other observers. The very common term herpes gestationis seems to be inappropriate, for it would appear that most, if not all, of the cases which have been included under the names previously narrated were properly instances of the same affection under different phases, and hence this term would be inapplicable for obvious reasons, while the name suggested by Professor Hebra will embrace all, premising that in most cases the impetiginous element has been a predominant one, while in others vesicles abound with a marked papular efflorescence, and in others, with which my case may be classed, a bullous or pemphigoid appearance of the eruption became, perhaps, the most noticeable feature in its progress.

The prognosis appears to be governed by the extent of surface involved; the intensity of the febrile action; the various grades of the process, whether principally vesicles, blebs, or pustules; and the rapidity of the loss of strength.

The treatment has been largely symptomatic, and applied, in most severe cases, to sustaining the patient. Local treatment accomplishes little, if anything, in the

way of checking or modifying the disease. Yet various applications have been employed successfully in affording relief to the pain, burning, and itching which usually prevail, for example, internally strichnine, quinine, iron, arsenic, stimulants, etc., and externally, tar preparations, various soothing salves, baths, zinc and lead lotions and powders, and in my case the greatest relief was afforded by the zinc and lime water lotion suggested by Dr. White. In cases where pus accumulates beneath the crusts absorption should be prevented by promoting the escape of the purulent matter.

CANCER OF THE BODY OF THE UTERUS, INVOLVING THE RECTUM.

BY FRANCIS MINOT, M. D.

Cancer of the uterus limited to the body of the organ, to the exclusion of the cervix, is so unusual that I think a report of the following case will be of interest not only to gynæcologists but to the general practitioner, who is often called upon to treat uterine disease. The diagnosis was obscure while the patient was under my care in the hospital. The gradual failure of flesh and strength, the pain, and the hæmorrhage were suggestive of malignant disease, while the apparently healthy condition of the os and cervix were opposed to that view; and the immediate and continued improvement which followed scraping the surface of the uterine cavity led me to hope that the case was one of so-called hyperplasia of the mucous membrane. The antecedents of the patient were not known to me until after her death, the hospital record stating that the family history was good.

S. C., sixty-one years old, single, a nurse by occupation, entered Massachusetts General Hospital June 28, 1883.[1] Her father died of cancer of the liver, and one uncle also died of cancer. Patient's health good till three years previous, when a bloody vaginal discharge began (she had ceased to menstruate eight years before). The discharge came and went at intervals till October, 1883, after which time it was continuous, quite profuse, inodorous, and contained clots. She noticed occasionally some fullness in the left iliac fossa, with acute pains from time to time; but there was no pain at time of entrance. She had lost some flesh during the preceding winter. The bowels were generally constipated.

She was a large woman, not emaciated. Pulse 108; temperature 99° F. A tumor was obscurely felt in the left iliac region, but its boundaries could not be made out, on account of the thickness of the abdominal walls. There was some tenderness in the same place. The os uteri was small, round, and normal in appearance. There was no hardness, ulceration, abrasion, or granulation about the cervix, os, or vagina. The sound entered easily to the depth of three and a quarter inches upward and backward; it could be freely moved inside the uterus, and was easily felt by the finger in the rectum. The fundus of the womb could be felt behind the pubes on deep pressure, and the organ could be swayed between the hand outside and a finger of the other hand applied to the cervix. No tumor could be detected per vaginam or per rectum. Profuse hæmorrhage occurred during the examination.

[1] See Med. Records, vol. ccclxx., p. 220.

The hæmorrhage continuing, in spite of the administration of ergot and of douches of hot water, the canal of the cervix was dilated with a sea-tangle tent, and on July 10th the interior of the uterus was thoroughly curetted, and a considerable quantity of gelatinous substance was removed. The hæmorrhage gradually diminished, and ceased by the 23d. There was progressive improvement, and the patient left the hospital August 29th, on which day it was recorded that she had "greatly improved, is up all day, and goes out; has no bleeding, and only a slight discharge from the uterus."

For the rest of the history of the case, together with an account of the autopsy, and the specimen, I am indebted to Dr. George R. Fessenden, of Ashfield, the patient's physician, to whose care she returned after she went home. For several weeks her health was comparatively good, there was very little pain, and no hæmorrhage until September 30th, when she had a profuse bleeding and severe pain. The flowing lasted for a few days and was checked by ergot. After this she passed several months quite comfortably, being nearly free from pain, but there was a constant discharge of offensive pus from the uterus. In January the hæmorrhage returned, quite freely, at intervals, with acute pain in the left inguinal region, and she lost flesh and strength rapidly. The bowels became constipated, and during the last five weeks of her life there was no dejection at all; but there were frequent offensive discharges of pus, with fresh coagula, from the vagina. A tumor was felt in the left iliac region. The abdomen was distended with gas, and the peristaltic movements of the intestines were frequent and painful except when controlled by opium. There were paroxysms of severe pain in the left thigh and in the lumbar region. She vomited only two or three times, but there was constant, though slight, nausea. The mind was clear to the last. The temperature never rose above 101.5° F. The pulse averaged 115 in the minute. She died early in April.

Autopsy, twenty-four hours after death. Body greatly emaciated. Abdomen much distended. Large intestine of a dark-red color nearly throughout, and distended with soft, very offensive fæces; at about four inches above the anus it was completely occluded by a hard, red mass, three or four inches in length, which was connected with the uterus. Mesentery, dark red, and studded with cheesy nodules, with a puddle of pus beneath it. A large part of the uterus was destroyed by ulceration and imbedded in pus. The left ovary was of the size of a large filbert, and very hard, grating when cut. The specimen was sent to Professor Fitz, who reported that it was one of sarcoma of the uterus, the extension of the disease through the walls having involved the tissue about the rectum, thus producing the obstruction of the latter. The rectal constriction was so complete that a marked hypertrophy of the muscular coat had taken place.

— Dr. Scott (*St. Louis Courier of Medicine*) relates the case of a native of Missouri who had not been wet all over since 1863. The doctor, being astonished at this fact, made inquiries respecting other residents of the same State. He found that not a third of the people in Missouri bathed once a month, and fifty per cent. do not take a full bath from October to May.

REPORT ON THERAPEUTICS.

FRANCIS H. WILLIAMS, M. D.

ON THE ACTION AND USE OF DIURETICS.

IN the *Practitioner* for April and May one of the editors, Dr. Brunton, discusses this subject in a very interesting and practical manner. The first portion of his paper is devoted largely to a discussion of the physiology of the kidney and the circumstances modifying the secretion of the urine.

It is thought that diuretics may influence the circulation in several ways: by raising the blood pressure generally, or by increasing the local blood pressure in e kidneys, in two ways, (*a*) by contracting the efferent vessels or the arterial twigs which pass directly to the capillary plexus, (*b*) by causing dilatation of the renal arteries, and thus increasing the supply of blood to the kidney. This they may do in more ways than one, for they may either paralyze the vaso-motor nerves of the kidney or act on vaso dilating mechanisms. Diuretics may also act on the secreting cells of the tubules, and may increase the amount of solids excreted by them.

It is known that greater action from diuretics may be obtained by combining them than by using them singly. "Thus we see that digitalis, instead of acting as a diuretic, may completely arrest the renal circulation, and stop the secretion altogether by contracting the blood-vessels. If, however, we can combine it with something which will produce dilatation of the renal vessels, while the general blood pressure remains high, we shall greatly increase the circulation through the kidney, and obtain the desired result. Experiments in regard to this were made by Grutzner with nitrite of sodium. He found that this substance increased the secretion of urine when the blood pressure was reduced to a minimum by curara; and he found that it also had this effect when the blood pressure was raised by imperfect respiration. When the vaso-motor centre was greatly stimulated, however, by allowing the blood to become very venous, the nitrite of sodium no longer produced any increase of secretion.

"All nitrites have an action on the blood-vessels more or less alike. All of them cause the arterioles to dilate, either by an action on their muscular walls or on the peripheral terminations of vaso-motor nerves. One of the commonest diuretics is spiritus ætheris nitrosi, which contains nitrite of ethyl. Sometimes this is combined with acetate of ammonia as a diaphoretic, sometimes with digitalis, broom, or spirit of juniper as a diuretic. We have already seen that the action of the skin and of the kidneys are complementary, so that if we increase the secretion from the one we tend to diminish that of the other. At first sight, then, it might appear curious that we should use the same drug to increase the secretion of both. Yet there can be little doubt, from clinical experience, that nitrous ether is useful for both purposes, and the reason of its utility at once becomes evident when we remember that its action is strictly neither diaphoretic nor diuretic, but simply that of dilating the vessels, and consequently allowing the blood to flow freely in whatever direction it may be determined by other conditions. If by combining it with digitalis we can dilate the renal arteries while those of the other parts of the body remained contracted, it is evident that we shall obtain a much freer flow of urine than we could by the administration of digitalis alone.

"If, instead of a diuretic like digitalis, which acts chiefly through the blood-vessels, we combine spirits of nitrous ether with salts of potassium, which act on the secreting structure, it is evident that we are likely to obtain from the increased circulation in the kidneys caused by the nitrites a much more plentiful secretion than the potassium salts alone would have produced.

"*Uses.* Diuretics may be employed either for the purpose of removing water or solids from the body. They are used, —

"(1.) To remove the excess of fluid met with in the tissues and serous cavities in cases of dropsy.

"(2.) To hasten the removal of injurious waste products and poisonous substances from the blood.

"(3.) To dilute the urine.

"In cases where the accumulation of the fluid depends on venous congestion, as, for example, in cardiac dropsy, those diuretics which act on the general vascular system, like digitalis, strophanthus, squill, or erythrophleum, are most efficient, because they tend to remove the cause of the dropsy, as well as to assist the absorption and excretion of the fluid already effused.

"When the dropsy depends on the disease of the kidneys or liver other diuretics should either be given instead of, or along with, digitalis or squill, even in cases of cardiac disease. Where digitalis or squill are not proving efficacious the addition of a little blue pill greatly assists their action, though it would be hard to say in what way it does so.

"In dropsy depending on kidney disease decoction of broom, and oil of juniper, and nitrous ether are amongst the most reliable diuretics, and copaiba in hepatic dropsy.

"Diuretics are used to increase the secretion of solids in febrile conditions and in cases of kidney disease where the excretion of waste products is deficient, and their retention threatens to prove injurious. In such cases nitrate and bitartrate of potassium, turpentine, and juniper, and caffeine are useful.

"Diuretics are also used to increase the proportion of water in the urine, and thus to prevent the solids being deposited from it and forming calculi in the kidney or bladder, or even to dissolve again concretions which have been already formed.

"Water is, perhaps, the most powerful diuretic which we possess, although fewer experiments have been made with it upon animals than with the others. The diuretic action of water drunk by a healthy man is very marked, and it appears impossible to explain its elimination by a mere increase in blood pressure, whether general or local. It has, as we have remarked, the power of increasing tissue change, and thus multiplying the products of tissue waste which result from it, but it removes those waste products as fast as they are formed, and thus, by giving rise to increased appetite, provides fresh nutriment for the tissues, and thus acts as a true tonic.

"In persons who are accustomed to take too little water the product of tissue waste may be formed faster than they are removed, and thus accumulating may give rise to disease. If water be freely drunk by such persons the product of waste will be removed, and health maintained or restored. Thus many gouty persons are accustomed to take little or no water, except in the form of a small cup of tea or coffee daily, besides what they get in the form of wine or beer. In

such people a large tumbler of water drunk every morning, and especially with the addition of some nitrate or carbonate of potassium, will prevent a gouty paroxysm. Still more numerous, possibly, is the class of people who rise in the morning feeling weak and languid, more tired, indeed, than when they went to bed. Now fatigue may be regarded as the imperfect response of muscles and nerves to stimuli, and such an imperfection in their action may be due either to their imperfect nutrition or to the imperfect removal of the products of their waste. Many such people are well fed, they sleep soundly, and it seems almost impossible to believe that the fatigue which they feel in the morning can result from imperfect nutrition, more especially as one finds that after moving about the languor appears, in a great measure, to pass off. It seems to me that this languor must depend upon imperfect removal of the waste products from the body, as we know that the secretion of urine, in healthy persons, is generally much less during the night than during the day. I am, therefore, in the habit of advising such persons to drink a tumbler of water before going to bed in order to aid the secretion of the urine and of the waste products during the night.

"In some cases, though not in all, the result has been satisfactory, and, possibly, might have been still more so had I added to the water the bicarbonate and nitrate of potassium, which, as I have already mentioned, is so useful in cases of gout.

"Lately a plan of treating gout by draughts of water at intervals during the day has been a good deal employed, and is in many cases successful. As an example of this I subjoin the diet used along with this treatment by a medical friend of mine who has been a martyr to gout, but who feels himself perfectly well as long as he adheres strictly to this course of diet:—

"Half-past seven A. M. Ten fluid ounces very hot water.

"Eight A. M. Breakfast. Equal parts of weak tea and milk, a small quantity of white sugar, a slice of fat bacon without a strip of lean, bread and fresh butter.

"One P. M. Milk pudding, rice, sago, tapioca, macaroni, or blanc mange, and small biscuits with butter; ten fluid ounces hot water.

"Four to five P. M. Ten fluid ounces hot water.

"Six P. M. Dinner. White fish or fowl (usually boiled), greens, bread, no potatoes, claret, seven fluid ounces.

"Eight to nine P. M. Ten fluid ounces hot water.

"Eleven P. M. Ten fluid ounces hot water.

"If he indulges either in meat or game, or drinks copiously of claret, or omits one or two glasses of hot water, he feels gouty and gravelly next day. It is obvious that by this plan of treatment, in which the ingestion of nitrogenous food is most strictly limited, at the same time that every facility is given for the elimination of the products of nitrogenous waste by the large quantities of hot water drunk in the course of the day, the accumulation of waste in the tissues ought to be most effectually prevented.

"*Adjuvants to Diuretics.* As the amount of urine secreted depends upon the difference in pressure between the blood in the glomeruli and the urine in the tubules, it is evident that any pressure on the tubules, whether caused by obstruction of the ureter by a calculus, by the mechanical pressure of dropsical accumulation in abdomen, or by distention of the venous plexus in the kidney itself, will tend to lessen the secretion of urine. Consequently we sometimes find that in such cases diuretics fail to act until the pressure has been relieved by paracentesis in cases of dropsy, or the venous congestion lessened by the use of a brisk purgative or by cupping over the loins.

"If the venous congestion is very great, as in cases of mitral disease or of chronic bronchitis with emphysema and dilated heart, bleeding from the arm may be advantageous or even imperatively necessary. In dilated heart and in mitral incompetence the action of digitalis on the heart itself, strengthening its action, and enabling it more effectually to pump the blood out of the venous into the arterial system, and thus to reduce venous congestion, will aid its action upon the kidneys."

NITRITE OF SODIUM IN ANGINA PECTORIS.

As regards the treatment of angina pectoris, which was spoken of in last year's report, it may be stated that further successful cases have been published in the *Lancet* for November 24, 1883. On the other hand, although Drs. Ringer and Murell consider it a valuable remedy[1] they find that the drug is apt to cause very unpleasant symptoms, and that five or, better, three grain doses should be used.

COCA, TEA, GUARANA, COFFEE.

In the last *Ephemeris*[2] Dr. Squibb gives four valuable and interesting papers on these topics. He has found it very difficult to obtain good specimens of coca, so much so that he has felt obliged to give up making its fluid extract.

Tea, coffee, Paraguay tea, guarana, and Kola nuts have all come into use in widely separated countries, and produce similar effects, namely, to refresh, renew, or sustain the physical and mental organism. And it is curious to find that after they have all been thus long used, although each came from a different natural order of plants, the same active principle, namely, caffeine, could be extracted from all. Coca contains cocaine, a substance which produces similar physiological effects in much smaller doses, although chemically it is very different from caffeine. In order to compare their ability to counteract the tendency to sleep they were tried in the same individual under the same conditions and the result used as a measure of their physiological action.

In this way coca was measured against tea, then coffee against guarana, and finally, to compare the four agents, pure caffeine was taken as a standard.

Having established a certain result with three grains of caffeine, it was found that three fluid drachms of the fluid extract of coca were needed to produce the same result. The three fluid drachms of coca contained .45 grain of cocaine, so that cocaine is about 6.5 times as strong as caffeine. Admitting that it is possible to obtain good coca readily, it would contain much less of cocaine than tea does of caffeine.

FLUID EXTRACT OF CAMELLIA (CHINESE OR JAPANESE TEA).

Tea leaves, as is well known, are prepared and exported with great care, and may easily be obtained of a very uniform quality and strength. After many trials a satisfactory fluid extract of tea was obtained by the process of repercolation, using a menstruum of water, alcohol, and glycerine.

[1] Lancet, November 3, 1883.
[2] Also this JOURNAL, September 18, 1884, p. 283.

Seventy minims of this fluid extract, containing two grains of caffeine, was found to antagonize a tendency to sleepiness as effectively as three grains of pure caffeine, showing that two grains of caffeine in its natural condition is as effective as three grains extracted from the plant and used as caffeine.

Coca, for centuries, was in popular domestic use for the same purposes and effects as tea before it was introduced as a medicine. It would seem best that tea should be introduced to use as a medicine as a substitute for coca, since the one can always be had of uniform good quality while the other cannot. The effects are, probably, identical, and the quantity of tea necessary to produce the effect is much smaller. The cost of coca, measured by its effect, is, perhaps, five times as great as of tea. For these and other reasons it would seem better to use a fluid extract of camellia rather than of coca. Of course a preparation of known and uniform strength would have advantages, for medicinal purposes at least, over the usual cup of tea.

GUARANA.

This substance is a rude, heterogeneous mixture. Neither the ingredients nor their proportions have ever been known with any useful degree of accuracy, and probably the composition is not constant. For various reasons Dr. Squibb has given up making the fluid extract of guarana, and substituted for it a fluid extract of green or unroasted coffee.

FLUID EXTRACT OF GREEN COFFEE.

Like tea, coffee can also be readily obtained of excellent quality and uniform prices.

In the trials of the fluid extract of coffee an amount containing 1.95 grains of caffeine produced the same results as three grains of pure caffeine or two grains of caffeine as it exists in tea, and about 2.58 grains as it exists in guarana.

The method of comparing these agents by a physiological test is not offered by Dr. Squibb as "a method of precision or as worthy of any great trust, and it is especially guarded against being received for more than it is worth. It is only a practical plan, carried out with much pains and care for close guessing at results, but the observations are fairly consistent among themselves, and, therefore, place the agents in a true relation to each other."

This would seem to be too modest a statement of their worth, and the profession are certainly indebted to him for a better acquaintance with the composition and comparative merits of some much-used drugs.

IODOFORM.[1]

Dr. Gaetano Rummo has studied the physiological action of iodoform experimentally in the laboratory of Professor Vulpian, in Paris, and an outline of his paper may interest many practitioners who have and others who will find the antiseptic and local anæsthetic properties of this drug useful.

Iodoform was discovered in 1822, and for about fifteen years it was of interest only to chemists. Bouchardat, in 1836, studied its properties and anticipated its future. In 1853 it was again studied in Paris, and since then, especially during the seventies, in Germany and elsewhere.

All authors admit the local anæsthetic effect of iodoform, and most admit its general anæsthetic action. It has a powerful antiseptic action. Nearly all authors affirm the paralyzing and narcotic action of the drug, and its convulsive action has been seen by many.

It is eliminated principally as iodide. How it acts, in what way it influences the secretions and the gastro-intestinal tract, and many important facts relating to its physiological action, were less well understood. As a consequence surgeons found themselves in the face of a serious accident, iodoform poisoning, and a reaction against this substance was the consequence.

There are three classes of phenomena in iodoform poisoning: —

"(1.) Gastro-intestinal troubles: anorexia, loathing of food, taste of iodoform in the mouth, coated tongue, epigastric pains, vomiting, and sometimes diarrhœa.

"(2.) Cardio-vascular troubles: the pulse is accelerated to 130–140 beats per minute, becomes irregular, and in some cases the pulse wave is weak; the pulse and heart's action denote threatening syncope.

"(3.) Nervous troubles: psychical phenomena appear, periods of excitation, agitations, hallucinations, tendency to suicide, impulsive mania, furious delirium; in some it is possible to find a period of depression characterized by melancholia, particularly sadness with a tendency to weeping, somnolence, loss of memory, comatose state. It is not rare to see convulsions and paralysis.

From this it is not to be inferred that iodoform deserves to be considered a dangerous substance, for in three thousand hospital cases, and in about four thousand out-patients Mosetig-Moorhof did not discover a single case of poisoning.

Iodoform is easily absorbed by the skin deprived of its epidermis; it is absorbed by inhalation, and especially by the stomach and the peritonæum. It is eliminated slowly as iodide of sodium by all the secretory organs, and in small quantities in the breath as iodoform. Large doses cause, in animals, albuminuria and hæmaturia, and fatty degeneration of all organs, especially the liver.

Iodoform does not stop the development of bacteria already begun in putrid liquids, but it is more powerful to prevent their formation.

Hofmokl, who considers iodoform very useful in surgery, suggests that the application of iodoform bougies to long fistulæ of the soft parts is more hurtful than otherwise, as the fistulæ are only stopped up, and the products of decomposition are not discharged. Equally unwise is the filling up of the mouth of a fistula with dry powdered iodoform.

[1] A Year Book of Therapeutics for 1884, edited by Royal W. Amidon.

— Dr. McCallum (*British Medical Journal*, June 14th) reports two cases in boys, in both of whose breasts a milky fluid could be made to exude by pressure upon the nipple. Both boys were masturbators.

— For sprains, Professor Brinton teaches (*Col. and Clin. Record*, July) that the limb is to be put into a vessel of very hot water immediately, boiling water being added as it can be borne, and kept immersed for twenty minutes or until the pain ceases. Then put on a pretty tight bandage, and order rest. Sometimes the joint can be used in twelve hours. If the trouble is more chronic apply a silicate of sodium dressing, and let the patient walk with a cane if the ankle be the joint affected.

Hospital Practice and Clinical Memoranda.

A CASE OF EPILEPTIC MANIA.[1]

BY DAVID G. HALL, M. D.,
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So much has been written on the subject of epilepsy, it may seem to be a rather worn-out subject. There are occasionally cases, however, whose symptoms differ from the ordinary epileptic fit where the patient cries out and suddenly falls, has spasmodic contractions of the muscles, froths at the mouth, etc., and within a short time recovers consciousness. Fits of this kind are, of course, common everywhere in private practice, but cases of epilepsy where the fits are accompanied by periods of great excitement are rarely met with except in hospitals for the insane, partly from the fact that they are less numerous than the milder variety, and chiefly because such patients are placed in institutions before the disease has assumed its most violent form. Such cases are by far the most dangerous of all classes of insane patients. When not excited they are a constant source of annoyance to their fellow-patients; they are always complaining of something; never satisfied with their food, no matter what it is, although at the same time they will eat twice as much as their digestive organs should be required to assimilate. They have almost always bad dispositions, which, of course, is not surprising when we consider the strain the nervous system undergoes during the periods of excitement. I use the term excitement, for in some cases this seems to be a more prominent symptom than the fits themselves.

One of the worst cases of epileptic mania which has been in the Northampton Hospital for several years was admitted May 15, 1882.

A man, forty-two years of age, about five feet six inches tall, thick set and muscular; weight on admission 143 pounds, at present weighing 190, showing a gain of forty-seven pounds. He has for years been subject to sexual excess, and also to the use of intoxicating liquors. The following are the facts upon which the physicians who signed the certificate of commitment based their opinions, to wit: "Attacks of acute mania, during which he commits the most violent acts, and is unsafe and difficult of restraint. On Sunday, May 14th, in a semi-nude state, he left his bed, and, with a large club, struck his own sister on the head several times, producing severe scalp wounds and injury to the brain. A tendency to destroy property. Further, we think these attacks are the sequel of epilepsy, to which he has been for a long time subject."

While investigating the case more carefully we learned the patient had been employed as clerk in a stock broker's office in New York, but on account of ill health had been obliged to give up work, and for a few months had been living with his father and mother, who reside in a neighboring town.

During an excitement he got out of bed and jumped through a window into the yard, carrying the sash and all before him. Here he found his sister and another woman with two little children. Picking up a cart stake, about three feet long and two inches in thickness, he started for the children, but the women seized them, and ran into a corner of the yard, where they were followed by this epileptic, who had now reached a state of uncontrollable excitement. He struck his sister with the club twice on the top of the head, and once on the back of the neck, when his father interfered, and prevented his doing further injury. Blood oozed from the sister's ears, she vomited at intervals, and was unconscious most of the time for several days, but after a long illness she recovered sufficiently to attend to her household duties, although it is said her nervous system still shows some effects of the shock it received.

Little could be learned as to hereditary tendency to disease of the nervous system, for all the relatives who ever came to see the patient seemed disinclined to talk about the case, and were especially reticent in regard to any nervous diseases which have occurred in the family. After a great deal of roundabout questioning the following fragments of family history were obtained: All members of the family are of a very nervous and excitable temperament. An uncle of the patient was an epileptic, and a child of the sister assaulted has epileptic convulsions. The patient himself had convulsions during teething, but these are said to have been very slight, and to have lasted only a short time. The first excitements of which I could get any history commenced about twenty years ago, soon after he left the army. At that time they were not very severe, and occurred at much longer intervals than at present. He married about this time a handsome and accomplished woman, and three children have been born to them, none of whom have been epileptic. Every year the excitements increased in severity until he would attack any one with whom he came in contact, no matter whether it was friend or foe.

When admitted to the hospital, the day after the assault, he was very nervous, had a rapid pulse, was restless and noisy for a few days, and then, apparently, recovered. In a few weeks, however, the excitement returned in all its fury, and has ever since occurred at intervals varying from a few days to three months. As a rule it comes on gradually, and in this respect differs from the majority of the cases of epileptic mania. He begins to find fault with everything and everybody, considers himself wholly recovered, and thinks he is greatly abused because he is not allowed to go home; sometimes, when sitting quietly, he will lose consciousness for a few moments, the eyes become fixed, and a slight spasm or twitching of the muscles will occur, especially those of the legs and fore-arms; the walk is slow and unsteady; the legs seem to be stiff and unwieldy; in a day or two he becomes more and more nervous and excitable, and finally loses all control of himself. He will, at times, jump up and down in his room, swing his arms about, and shout at the top of his voice. The face is sometimes pale, but usually flushed. The eyes become so congested they closely resemble a case of acute conjunctivitis, and they have a peculiar, wild stare, which is anything but pleasant to look at. But perhaps the most striking thing one observes is the change in the voice. It is only with the greatest effort he is able to make himself understood. It takes him a long time to get started, and then there is an explosion of words, which are chopped off abruptly, so to speak, as though the muscles concerned in articulation became spasmodically contracted. This high state of excitement does not, however, con-

[1] Read before the Hampshire District Medical Society, September 11, 1884.

tinue for any great length of time. There are always intervals throughout the day when he can take a little nourishment. As a rule the periods of excitement continue from five to ten days, but occasionally they last two or three weeks, when they gradually disappear, leaving him weak and irritable.

Thus we have a case which so evidently belongs under the head epilepsy or, more properly, epileptic mania, there can be no doubt that must be the proper diagnosis. Yet, as far as we know, the patient was never known to fall, never bit his tongue but once, and his lips once, never had the "epileptic cry" or anything approaching the "aura," which so often occurs in this disease.

In regard to the prognosis, all we can say is that this case, like all other cases of true epilepsy, is hopeless. If he lives many years he will, probably, become more or less demented.

The treatment at first consisted chiefly of tonics, but as the patient gained so rapidly in flesh, and showed himself capable of eating, at least, twice as much as two ordinary men, they were soon discontinued. When the excitements are coming on he is given large doses of "salts and senna," and also moderate doses of bromide, which latter are continued until he has wholly recovered.

In regard to responsibility, almost any number of pages might be written. In the eyes of the law this patient would not, of course, be held responsible for a moment, and no physician would dare give as his opinion that this man should be held accountable for his misconduct; yet insane persons, if their minds are not too far gone, are oftentimes just as liable to take advantage of their condition as any of the other descendants of Adam. Within a month a patient told me "if old so and so (speaking of another patient) did n't keep away from him he would split his head open with his chamber." When reproved for it he said, "If I should do it nobody could hurt me. They say I am insane, and the law would n't punish an insane person." And so it is with the present case. I cannot but believe this patient at times takes advantage of his condition, and does things he ought not to do when his mind is sufficiently clear for him to know better. Several months ago he had an attendant whom he very much disliked. He resented everything he asked him to do, and never hesitated to quarrel with him if the least opportunity presented itself. So during an excitement he struck the attendant with an earthen chamber, which had been very carelessly left in the room, making an ugly gash just above the left eye.

Several days after he had recovered he told me very quietly he intended to kill his attendant, and would do it yet; thus not only showing he remembered the affair, but acknowledging he did it intentionally. So, if we were to judge only from the patient's own words, we should be obliged to say he was, at least to a certain extent, responsible; but if we stop to follow the case all through, compare the actions of the patient now with his conduct before the disease became developed, remember how the loss of self-control became more and more marked as the excitements increased in severity, we are compelled to acknowledge that this patient should be considered irresponsible, and should in no way be made to answer for what, in all probability, he never would have done had he not become subject to this disease.

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MR. TAIT'S ADDRESS.

AT the annual meeting of the Canada Medical Association, recently held in Montreal, Mr. Lawson Tait delivered a noteworthy address on Abdominal Surgery. The words of such a master will be widely read, but, we believe, with a certain disappointment that the distinguished author should not have manifested in himself "the power of judging the question solely upon its merits, and entirely apart from any prejudice, tradition, or personal bias." Indeed it seems to us that Mr. Tait was actuated quite as much by a desire to castigate Sir Spencer Wells as to lay before the profession the results of his own experience and observation. The animus of the address is well shown by the author's words in his allusion to Mr. Keith, to whom, in Mr. Tait's opinion, "is due the whole credit of the modern development of abdominal surgery," namely, "it has ever seemed specially hard that while wealth and a title have been the lot of the man who had done nothing but obstruct progress, yet to the author of our present proud position nothing has come save a good deal of misrepresentation and abuse."

But passing over the personalities of this truly polemic discourse, we read with interest Mr. Tait's explanation of his remarkable success; it is briefly this: entire restriction to his chosen field, the most minute attention to every detail, and great personal attention to cleanliness in every part of his work. In common with Keith, Bantock, Savage, and many others, Mr. Tait has given up the spray and all the details of Listerism, believing, after long and careful trial, that they prejudice his success. In ovariotomy he believes in the intra-peritoneal treatment of the pedicle, and has discarded the clamp. As regards the use of perchloride of iron for tanning the stump after hysterectomy, which he says is "the only contribution Sir Spencer Wells has ever made to abdominal surgery," he believes that owing to the impossibility of accurately closing the abdominal wound where a clamp is necessarily used on a thick pedicle, the iron is liable to trickle down into the peritoneal cavity and cause fatal peritonitis. In the treatment of uterine myomata Mr. Tait believes with Mr. Thornton, Professor Hegar and others, that in the great majority of cases removal of the uterine appendages arrests menstruation, arrests also the growth of the tumor, and in many cases causes it to entirely disappear. There is, however, in his opinion, a soft, œdematous variety of myoma on which removal of the appendages exercises

no control, and in such cases and in those in which for any reason the appendages cannot be removed he advises supra-vaginal hysterectomy, for which operation he predicts a brilliant future.

Mr. Tait's success in the surgical treatment of chronic ovaritis and of chronic inflammation and occlusion of the tubes is well known. He points out the frequent difficulty of diagnosticating these cases, especially when the ovaries and tubes are prolapsed and adherent. We believe, with Mr. Tait, that in doubtful cases an experienced surgeon is fully justified in making an exploratory abdominal incision. Of Battey's operation Mr. Tait has not come to a decided opinion, and indeed his experience has been purposely limited to only six cases, as he has not cared to prejudice the results of his other work by complicating it with what seemed to him a doubtful proceeding. He believes the future of the operation is still open for discussion and thinks it may prove beneficial and therefore justifiable chiefly in cases of menstrual epilepsy.

We had supposed it to be generally acknowledged that McDowell was the first to plan and execute the operation of ovariotomy; but Mr. Tait says that the first operation "was performed unwittingly, in 1701, in a Scotch village by Robert Houston," and that eighty-six years afterwards Houston's example was "imitated" by McDowell. We do not believe that the profession is yet prepared to take from McDowell his proud distinction and bestow it upon one who at best performed but an accidental and incomplete operation.

THE DRY DIET CURE OF DYSPEPSIA.

For fully half a century the medical profession has been acquainted with the advantages of a diet exclusively of milk in certain gastro-intestinal affections. It has been found that for irritable and inflammatory states of the digestive tube this regimen often furnishes the most favorable conditions for sustentation and restoration. Clinicians have given precise indications for its employ. Thus Gubler, in his Commentary on the Codex, very judiciously remarks that "milk agrees better with the irritable and congested stomachs of gouty and herpetic subjects, and those that have made excessive use of condiments and alcoholic stimulants, than with those who have been suffering from atonic dyspepsia, or who have tendencies to catarrhal or serous diarrhœa."[1] "There are," he continues, "certain gastralgias and dyspepsias which are not benefited by milk diet."

At a recent meeting of the Société de Therapeutique, Paris, Dr. Henri Huchard gave an account of his experience in the treatment of several inveterate cases of dyspepsia, attended with dilatation of the stomach; after complete failure of the milk regimen he changed his course, prescribing a dry diet and abstinence, as far as possible, from liquids. The result was most gratifying, all his patients getting well. What was characteristic of these cases was the aggravation of the gastric troubles on the ingestion of liquids. In all there was marked distention of the stomach, amounting in some instances to chronic dilatation; there were besides, gaseous eructations, colicky pains with sometimes cardiac oppression, a furred condition of the tongue, with often nausea and vomiting, but that which especially attracted attention was the supervention of attacks of suffocation or pain on the attempt being made to swallow any kind of liquid food. One of Huchard's patients — fortunately cured by abstinence from liquids — used to have prolonged fainting fits on taking a few spoonfuls of porridge. "Milk, broth, gruel caused such extreme discomfort that the young woman preferred to go without food. For the constipation from which she was suffering — and it is noteworthy that patients afflicted with this form of dyspepsia are generally constipated — I ordered one day a glass of Hunyadi János, but the first mouthful caused such anguish of suffocation that she could take no more." Huchard, from whose article in the *Bulletin general de Therapeutique* (August 30th) we quote, gives to Chomel the honor of having first noted and clearly defined this "dyspepsia of liquids," although older authorities have remarked in cases of feeble digestion that the ingestion with meals of considerable quantities of liquids determines distention of the stomach and diminution in the secretion of gastric juice, while it is a saying of Beau that "good stomachs belong to those who drink little, and who drink nothing at meal time." Chomel described a peculiar swashing sound (*bruit de clapotment*) heard in the stomach, and generated by the presence in the cavity of that viscus of an excess of liquids and of gas, as being pathognomonic of this affection. This *swashing* noise is heard when the patient is suddenly turned from one side to the other, or when he otherwise changes his position; a good way, and one which Chomel recommends, is to place the patient before you in a standing posture, and with both your hands on the sides of his abdomen to give several abrupt lateral impulsions.

Having observed that in this form of dyspepsia the stomach digests solids much better than liquids, Chomel formulated the dry diet treatment, which consists in the utmost possible abstinence from liquids; the patient not being allowed to take more than one small cup of his ordinary drink during his repast. Full baths of lukewarm water and lavements were permitted in ordinary to maintain the requisite fluidity of the blood. An interval of at least eight hours between the morning and the afternoon meal was enjoined; if the time of breakfast was fixed at eleven A. M., the dinner could not be had till seven P. M. Soups of any kind might be taken, provided they were made quite thick. To these soups were added bread in small quantity, roast, boiled, or broiled meats warm or cold, fish, eggs, legumes, on condition that sauces should be used with them very sparingly. Fruits were permitted with moderation except such as are very juicy, *e. g.*, melons, grapes, peaches, etc. With this form of dyspepsia such foods as are finely divided and pulverulent (the powder of meat for instance) agree very well; raw oysters on bread, or scalloped

[1] Gubler, Commentaries du Codex, p. 203 (cited by Huchard).

oysters are unobjectionable dishes. For the constipation which afflicts these patients those purgatives should be selected which present themselves in a solid form.

Huchard cites instances in the practice of his eminent master, where under the influence of this regimen all uncomfortable dyspeptic and reflex symptoms disappeared, and in which health was afterwards enjoyed except at such times as the person through indiscretion transgressed by indulgence in some favorite beverage; even trifling indiscretions being sometimes followed by oppression, colicky pains, palpitations, *glou-glou* sounds sufficiently loud to attract the attention of standers by, etc. One of these patients could not take a glass of cold water of an evening without suffering the next morning from dryness of the mouth, flatulent distention of the stomach, and suppression of urine.

According to Huchard, then, abstinence from liquids, or the "dry diet cure," to which Fonssagrives has given the name of *xerophagia* (Gr. "I eat dry food"), produces excellent effects in certain dilatations of the stomach, in atonic dyspepsias, in the dyspepsia of liquids. He thinks also that this kind of regimen is applicable to other affections characterized especially by excess of arterial tension — to atheromatous patients, to individuals affected with interstitial nephritis, aortic affections, certain cases of angina pectoris, with considerable elevation of vascular pressure, and to persons predisposed to divers hæmorrhages, cerebral congestions, etc.

"GUIDE, PHILOSOPHER, AND FRIEND."

THE leading London medical weeklies have all printed, as usual, their "students'" numbers, containing information which, doubtless, is of use to young men about to study in the great capital. We cannot help thinking, however, how appalled many a young disciple of Galen must be at the amount and solidity of the good advice which is tendered him. One hundred pages of reading-matter and advertisements is the contribution of *one* of these journals to the special needs and temptations of the medical student, and at least two other weekly periodicals are equally generous. We note with interest one innovation, modeled, as we are told, on Mr. Hamerton's Intellectual Life. It consists of letters of advice, drawn up to meet various imaginary conditions. The following supposed communications are printed at length: "From the Dean of a London Medical School to a Widow who proposes that her Son shall enter the Medical Profession." "To the Same, from a Country Apothecary." "From a London Physician to an old School-Fellow, who has asked Advice about his Son." "From a Successful Surgeon to a Young Genius who has decided to study Medicine." "From a Country Practitioner to his Son, who has just entered at a London Hospital." "From a Prosperous Young Specialist to his Brother, who desires to Follow in his Footsteps." "From a Second-Year's Student to his Friend, a Freshman."

This department still falls short of that fullness which one looks for in a complete letter-writer, inasmuch as there must be a number of young men who do not find their own special circumstances fully detailed, and may, therefore, not know exactly what to do. It would be well to make some additions, as, for instance, "From a Distinguished Professor of Dermatology to a Young Man afflicted with Freckles;" "From a Wealthy Maiden Aunt to her Nephew, with Enclosure to buy a Skeleton;" "From a Renowned Obstetrician to his Second Cousin, recently married." Other appropriate topics for this department will, doubtless, suggest themselves to our esteemed contemporary before the issue of its next "student's number."

MEDICAL NOTES.

— *Science*, taking a comparative view of the characters of the English and American associations for the advancement of science, both held this year on this side the Atlantic, says, among other interesting observations, that in the matter of paying compliments and moving thanks in an easy and graceful manner, our English cousins have the advantage of us. It is the almost universal custom for the chairman of the Section to thank the reader of a paper, and often in elaborate terms. This consumes a good deal of time, and it is a question whether such wholesale compliment is desirable. It was observed, however, that the distinguished and genial presiding officer of one of the Sections made use of two quite different formulæ for expressing his appreciation of the merits of the paper: in one case hoping "that the Section would join him in thanking Professor —— for his interesting and important communication upon this subject;" and in another, "that the Section would join him in thanking Professor —— for his communication upon this interesting and important subject." The importance of the proper arrangement of words was never shown to better advantage.

— The *Medical News* (September 13th) discourses pleasantly of one of the latest born of the family of the cocci — the *Influenzacoccus;* "Dr. Otto Seifert had the opportunity of observing an epidemic of influenza in Würzburg. It was not exactly a pandemic. The first case came under his notice, in the Julius Hospital, on the 4th of January, 1883, and the last on the 24th of March in the same year; and they numbered, in all, *seven*. He was, therefore, enabled to cope single-handed with the whole epidemic. He not only routed it, horse and foot, but he also took it captive, and has studied its appearance and habits with the care and interest due to so distinguished a prisoner of war. As the reader anticipates, it is a coccus, and a micrococcus at that. Enlarged 350 times, its length is from 1.5 μ to 2 μ, and its breadth 1 μ; and its number in the sputum is legion. It arranges itself mostly in long chains, the rank and file, less often in pairs (diplococci), and occasionally it stands forth alone (monococcus). It was caught in the secretions of the nares and in the sputum in the earlier actions of the campaign. Later, when these became fouled and purulent, the coccus forsook them. In the tears, even when they most bedimmed the eyes, it was not found.

The captive was clad by its conqueror in a robe of methyl-violet, and made a magnificent appearance. In order to establish its identity, laborious comparisons of the nature of control experiments were made. Examinations of the same secretions of many other sick than the seven were conducted, but with a negative result. The coccus was not there; nor was it found in any blood — even of the seven. The inoculation of two white guinea-pigs failed. Like other fierce captives it grew sullen and refused to do its trick. Or was it like those noble beasts which become sterile in captivity? Dr. Otto Seifert magnanimously gave it a new robe, of almost Tyrian purple, but the spirit of the victor prevailed, and he has called it by a name not its own — 'Influenzacoccus,' and has broken its spirit by likening it to the base coccus of gonorrhœa."

— Osteotomy for genu valgum was discussed at the International Medical Congress, and Macewen's supracondyloid osteotomy was acknowledged by all to be the most satisfactory one. Professor Ogston gracefully acknowledged that his own operation (fracture of the internal condyle) did not yield as good results as Macewen's simpler and safer operation. Professor Schede said that, with German surgeons, he had accepted Macewen's operation as the best. He differed from Dr. Macewen in doing his operation in one respect — he did not use but one chisel, and considered the withdrawal of the instrument from the wound a serious matter, in that it led to an unnecessary disturbance of the parts, and frequently some difficulty occurred in reintroducing the chisel. He thought that in many cases the tibia, rather than the femur, was involved, and in these cases he preferred his own operation (section of the tibia). Mr. Bryant complimented the gentlemen on the manner in which they had given up their pet operations, and had accorded to the supracondyloid operation (Macewen's) its just value.

— In a paper read before the Buffalo Medical Society by Dr. Pryor it is stated that two thirds of the births in that city are reported for registration by midwives. He criticised sharply the ignorance of many of these women, whose fees for a labor case were only $3 to $5. In the discussion upon this paper one speaker said that he knew a midwife of Buffalo who said she "had attended one thousand successive successful cases, among which she had turned fifty times in cross presentations, has had fifty footling cases, and one of placenta prævia, had three times called a doctor to apply the forceps, and had removed the placenta with her hand fifty times." A more striking commentary than these figures on the competence of the midwife would be hard to find. One case in twenty of transverse presentations and the same ratio of footling cases! Yet after putting her hand into the uterus of every twentieth woman for the placenta, besides performing version fifty times, the midwife sends three times for a doctor to put on forceps!

— A nursery-maid, in London, aged seventeen, has been charged with willful murder and convicted of manslaughter for killing a child by tying a scarf round its neck to stop its crying while she was wheeling it before her in a perambulator. She was reading a book, and, naturally, any noise like that of a crying child diverted her attention from the more important occupation in hand. The diversions of most nurses hereabouts are not literary, but we wonder what some mothers would say if they ever became aware (as probably they never do) of the neglect to which their children are exposed while mademoiselle, in the French cap, is chattering with her companions or flirting with her *garçon*.

— Lawson Tait says: Any woman who has an ovarian tumor removed in her own house is a fool for her pains.

Correspondence.

THE CHOLERA EPIDEMIC OF 1873.

A REVIEW OF A CONGRESSIONAL REPORT.

Lowell, *September* 22, 1884.

Mr. Editor, — Perhaps there is no better work on this dreaded disease, as it has appeared in our own country, than this Congressional Report. Covering over a thousand pages, all phases of the subject have received most careful attention. The epidemic of 1873 extended over eighteen States, but happily did not visit Massachusetts. The Report was published in 1875, and embodies the experience of a large number of physicians. It was prepared under the direction of the Surgeon-general of the army. Full records were collected of 7356 cases, and of these more than half (fifty-two per cent.) died. The results in the use of the more common drugs are thus stated: —

In the treatment by calomel, in large and small doses, there was a mortality of twenty-three per cent.; calomel and opium there was a mortality of thirty-one per cent.; calomel, opium, and acetate of lead, the mortality was forty per cent.; calomel, opium, and stimulants the mortality was fifty per cent. In cases where stimulants alone were employed the mortality was increased to fifty-nine per cent. Where the preparations of iron were used, the mortality was thirty-three per cent., while from the acid treatment but eight per cent. is recorded. Of the latter the cases reported are scarcely numerous enough to afford reliable data — sixty-four cases with five deaths."

"The evidence is conclusive that the exhibition of opium followed by alterative doses of calomel, and absolute rest in the recumbent posture, almost invariably arrested the disease when in the premonitory stage. In the advanced stages the entire range of the Pharmacopœia seems to have been brought into use with no better results than have been obtained in previous epidemics."

The Report "strongly corroborates the beneficial results obtained from the use of sulphate of iron and dilute sulphuric acid as prophylactics during an epidemic."

As so much has been said lately about the valuable work of Dr. Koch and his colleagues, it is interesting to recall what has been done in the same field by previous observers. In 1872 a most interesting series of experiments was made by Nedswetzky, of Russia, on the bacteria of cholera dejections. A summary of his results is given in this Congressional Report.

When the bacteria were subjected to *quinine, camphor, carbolic acid, tar, calomel,* or *chloral* they lived and moved as before. In the experiment with *opium* he added one drachm of the tincture to two drachms of the rice-water discharges. The bacteria all remained alive until the sixth day, when a few of them died. The same result occurred with *nux vomica. Chloroform* and *muriatic acid* were almost immediately fatal; while death of the bacteria invariably followed the addition of *sulphate of iron, chlorine* water, *tannic, nitric,* or *sulphuric acids* to the rice-water discharges.

If it be true, as is now very generally believed, that these living bacteria, or "bacilli," cause the disease, the importance of the above experiments cannot be overestimated.

The conclusions with regard to the general character of Asiatic cholera are summarized in the following seven "propositions" under the head of ætiology: —

"Proposition I. That Asiatic cholera is an infectious disease resulting from an organic poison, which, gaining entrance into the alimentary canal, acts primarily upon and destroys the intestinal epithelium.

"Proposition II. That the active agents in the distribution of the cholera poison are the dejections of persons suffering from the disease in any of its stages. That in these dejections there exists an organic matter which, at a certain stage of decomposition, is capable of reproducing the disease in the human organism to which it has gained access.

"Proposition III. That cholera dejecta coming in contact with and drying upon any objects, such as articles of clothing, bedding, and furniture, will retain indefinitely their power of infection. That in this manner a sure transmissibility of the cholera infection is effected, and that a distinct outbreak of the disease may occur by such means at great distances from the seat of original infection.

"Proposition IV. That the specific poison which produces the disease known as cholera originates alone in India, and that by virtue of its transmissibility through the persons of infected individuals or in the meshes of infected fabrics the disease is carried into all quarters of the world. That cholera has never yet appeared in the western hemisphere until after its route of pestilential march has been commenced in the eastern world, and that its epidemic appearance upon the North American continent has invariably been preceded by the arrival of vessels infected with cholera sick, or laden with emigrants and their property from infected districts."

The epidemic of 1873 in the United States is believed to have been traced to a fair held in the Punjab in 1867.

"Proposition V. That the respiratory and digestive organs are the avenues through which individual infection is accomplished; that through the atmosphere of infected localities cholera is frequently communicated to individuals; that water may become contaminated with the specific poison of cholera from the atmosphere, from surface washings, from neglected sewers, cess-pools, or privies, and that the use of water so infected will induce an outbreak of the disease.

"Proposition VI. That the virulence of a cholera demonstration, the contagion having been introduced into a community, is influenced by the hygienic condition of the population, and not by any geological formation upon which they reside.

"Proposition VII. That one attack of cholera imparts to the individual no immunity from the disease in the future, but that the contrary seems to be established."

Very truly yours,

WM. H. LATHROP, M. D.

ELECTION OF HONORARY MEMBERS OF THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR, — Have the Councilors of the Massachusetts Medical Society any authority to *elect* honorary members of said Society? In trying to settle this question I would beg the liberty to call the attention of the Fellows of said Society to some of the provisions of the Charter and subsequent acts of the Legislature.

By the Charter, Art. I., Section 5, it was enacted that the Fellows of said Society may *elect* such persons as they shall deem proper to be Fellows thereof; but the number of said Society who are inhabitants of this Commonwealth shall not at any time be more than seventy.

The Act of 1803, Section 1, authorized the *Fellows, for the time being,* of the Massachusetts Medical Society, in any meeting called and holden for the purpose before the next annual meeting, to *elect* into that Corporation, and to be Fellows thereof, such and so many suitable persons, being physicians or surgeons, resident within this Commonwealth, as they may see fit.

Section 2 authorizes the Fellows at the next annual meeting and afterward at every annual meeting thereof to choose so many Councilors as said Society from time to time judge necessary. And Section 3 says: "And the said Councilors, at any stated meeting of the same, and only those meetings, and after three months' nomination of every candidate, and not otherwise, by a major vote of those present may *elect* any suitable person or persons to be a Fellow or Fellows of said Society, provided that all practicing physicians and surgeons resident within this Commonwealth, who shall be so elected, shall, within one year after such election, subscribe the By-Laws of said Society, or otherwise declare in writing their assent to the same, or such election shall be void. And all persons not practicing physicians or surgeons, or not resident within this Commonwealth, who shall be so elected shall be deemed honorary members of the said Society."

The above are all the provisions of law by which Fellows or the Councilors of the Massachusetts Medical Society were ever authorized to *elect* Fellows or members of said Society. Certain acts have been passed at different times by which licentiates and others might become members, but no provisions by which any person could be *elected* a member of said Society.

The law of 1859 declares that "No person shall hereafter become a member of the Massachusetts Medical Society except upon examination by the Censors of said Society.

This act certainly deprives not only the Councilors but the Fellows also of said Society of all power to *elect* any person to membership of the Society, and consequently all persons *elected* to be members of said Society since that time were illegally elected.

It is true there may be a doubt whether the law of 1859 was binding upon the Society before the vote of the Society, October 4, 1876, directing and authorizing the secretary to record the acceptance of the Society to said act of the Legislature (the Legislature,

in the Charter, not having reserved any right to alter, amend, or annul said Charter without consent of said Corporation). Yet the vote of the Society at that time is in such form as clearly to imply that the Society did accept the act at the time of its passage.

I leave it for the Fellows of the Society to judge whether the statement made at the last annual meeting that "all the honorary members of the Society *elected* since March, 1859, were illegally elected" was a remarkable one. M.

September 20, 1884.

Miscellany.

HOW TO PREPARE ANTISEPTIC DRESSINGS OF MERCURIC BICHLORIDE.

Now that the advantages of the mercuric bichloride as an antiseptic dressing have been clearly established, receiving as it does the sanction of so many eminent surgical authorities, and becoming extensively employed in hospital and private practice, writes Dr. Charles Meigs Wilson, in the *Philadelphia Medical Times* (September 6, 1884), a few words as to its proper preparation for such purposes may be of interest. Corrosive sublimate is soluble in water in the proportion of thirty grains to the ounce. Various vehicles have been employed, as glycerine, ether, alcohol, or the latter in equal parts and water. Of all these the preference should be given to water as a medium, because of its capability of imbibition and solution, and the readiness with which it may be obtained. Sufficient sodium chloride should be added to solutions of the sublimate (an equal part) to prevent the latter's decomposition and the formation of calomel. In hospitals it is possible to have the solutions freshly prepared and frequently renewed, but in private practice this is not always feasible, especially if the case be of long duration, and at a distance from a drug shop. A convenient solution for private use, and one which will keep indefinitely, is the following: —

Hydrarg. bichlor.	℥ ii.
Sodii chlorid.	℥ i.
Aquæ distillat.	f ℥ iv. M.

One fluid drachm of this added to a pint of water makes a solution of about one to a thousand. Sir Joseph Lister makes use of the following formula in preparing solutions of corrosive sublimate: One drachm by weight of a solution, one part of corrosive sublimate in one and one half parts of glycerine, contains two fifths its weight, or twenty-four grains, of the sublimate. This multiplied by one thousand (the proportion of water required) gives twenty-four thousand grains, or nearly three pints. It is, however, much more convenient to use fluid measure than weight, and one fluid drachm of the glycerine solution referred to requires four pints of water to produce the one to one thousand solution. Surgical authorities are pretty well agreed that one to one thousand is the proper solution to use for douching, washing, and dressing wounds. For vaginal or uterine irrigation, one to two thousand is the proper strength, and no stronger solution should be used in abdominal surgery. The best medium in which to use the corrosive sublimate for surgical dressings is finely-pulverized wood. This may be obtained at a number of the instrument makers' and drug shops. The wood-wool is sterilized by being subjected to a dry heat (above 220° F.). It is then soaked for twelve hours in a one half per cent. solution of corrosive sublimate. Afterwards it is spread out and dried. It is then placed in a bag of gauze (such as is used for the Lister dressing) or mosquito-bar netting, prepared by being saturated with the following solution: —

Corrosive sublimate.	gr. x.
Alcohol	f ℥ ix. et f ℥ ii.
Glycerine	f ℥ i. et ℥ xx.

This dressing is applied dry. Care should be taken to apply the dressing so that the margins of the bag extend an inch or so beyond the margins of the wound. This dressing is capable of absorbing twelve times its weight of water. It is applied with the ordinary roller, and requires no mackintosh or covering.

In St. Mary's Hospital, Brooklyn, we are told that a very useful combination is obtained as follows: Dissolve six grains of corrosive sublimate in ether and alcohol, of each one half ounce. Dissolve sodii chlor., twenty-four grains, in glycerine, one ounce. Mix the two solutions, and triturate thoroughly with one pound of wood-wool. Spread to dry, and after the ether and alcohol have evaporated mix well with one part to ten, by weight, of powdered naphthaline. Two powerful germicides are thus combined.

MISSED ABORTION; SCLEROSIS OF THE PLACENTA.

AT a recent meeting of the Obstetrical Society of New York a paper was read by Dr. H. J. Garrigues narrating the case of a woman, aged thirty, married ten years, in her sixth pregnancy, who presented herself for treatment, having had daily slight hæmorrhage for four weeks. The size of the womb corresponded to the fourth month. No sounds being audible, pregnancy, with death of the fœtus, was diagnosticated. About a week later the bleeding had ceased, and the patient felt well.

About nine months after her last menstruation a fœtus and placenta, in one mass, were expelled with moderate pain. They were perfectly fresh. The fœtus, a female, seemed to be at the end of the fourth month, with partial arrest of development. The mouth was large, the lips only partially formed; hare-lip and cleft palate existed. The epidermis had come off to a great extent, forming casts of the hands and feet. The soft parts appeared much atrophied.

The placenta measured eight by six centimetres, and appeared mainly hard, whitish, and lardaceous, without cotyledons. Its fœtal surface was normal. The cord, twenty centimetres in length, had a velamentous insertion. Of the membranes only some pieces of gelatinous tissue remained, and of the decidua only a few long shreds were found. The death of the fœtus was due to the sclerosis of the placenta, which is supposed to be of syphilitic origin.

A dead fœtus undergoes either putrefaction or mummification. In the former case it causes fever, and if not expelled must be removed. In the latter case, as in that under consideration, it may be retained for many months. The wasting of the soft parts should be attributed not so much to absorption of the liquids as to starvation, inasmuch as scarcely any placental tissue was left. A similar condition is found in adults deprived of food. Missed abortion is of some practical interest. Where the fœtus is decomposed its removal is indicated, but no treatment is called for in case of

mummification. As the diagnosis will generally be doubtful, inasmuch as the uterus might contain a living fœtus, it is advisable to abstain from active measures. The possibility of this condition occurring should be borne in mind so as to avert unjust suspicion, for example, when a married woman, in the absence of her husband, expels a fœtus corresponding to a development of shorter duration than the father's absence. The woman may require treatment for uterine disease, or, perhaps, both she and her husband for syphilis.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 13, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	851	403	36.86	10.99	22.58	2.34	1.98
Philadelphia	927,995	425	166	22.32	10.56	14.88	5.52	3.36
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	250	149	40.00	6.40	28.40	2.80	4.00
Boston	423,800	218	102	38 70	13.80	25.76	3.68	4.14
Baltimore	408,520	173	80	26.68	8.70	11.60	2.32	5.22
St. Louis	400,000	180	85	27.19	6.11	14.44	4.44	2.22
Cincinnati	272,400	111	41	24.32	13.51	9.91	8.10	—
New Orleans	234,000	134	31	21.42	17.02	5.18	—	.74
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	102	44	28.42	13.72	13.88	4.90	2.94
Pittsburg	180,000	93	54	42.80	5.35	29.96	4.28	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	60	23	34.44	18.04	26.24	6.54	4.92
New Haven	62,882	20	11	35.00	25.00	25.00	—	—
Nashville	54,400	27	11	62.90	11.20	30.30	7.40	3.40
Charleston	52,286	35	14	14.30	17.16	8.58	2.86	—
Lowell	71,447	29	16	44.85	13.80	41.40	3.45	—
Worcester	69,442	37	21	29.70	8.10	27.00	—	2.70
Fall River	62,674	40	24	45.00	5.00	30.00	2.50	2.50
Cambridge	60,995	20	7	32.00	8.00	28.00	—	—
Lawrence	45,516	25	18	24.00	20.00	12.00	4.00	—
Lynn	44,895	8	2	12 00	—	—	12.50	—
Springfield	38,090	16	5	31.25	—	—	25.00	—
Somerville	31,350	15	9	73.33	—	46.66	—	20 00
Holyoke	30,515	15	8	39.99	—	33.33	6 66	—
New Bedford	30,144	15	6	39.99	—	33.33	—	—
Salem	29,503	14	7	35.70	14.28	35.70	—	—
Chelsea	24,347	9	4	22.22	11.11	22.22	—	—
Taunton	22,693	13	4	53.83	—	30.76	—	23.07
Gloucester	21,400	4	3	—	25.00	—	—	—
Haverhill	20,905	8	3	37.00	25.00	25.00	12.00	—
Newton	19,421	9	3	11.11	11.11	11.11	—	—
Brockton	18,323	5	1	—	20.00	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	12	4	16.66	25.00	16.66	—	—
Fitchburg	13,433	3	0	—	33.33	—	—	—
Ninety-one Massachusetts towns	364,039	89	29	39.34	23.60	30.35	2.24	5.52

Deaths reported 3066 (no reports from Brooklyn, Buffalo, and Milwaukee): under five years of age, 1388; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 887, diarrhœal diseases 606, consumption 372, lung diseases 110, typhoid fever 109, diphtheria and croup 91, malarial fevers 53, whooping-cough 44, scarlet fever 29, cerebro-spinal meningitis 27, puerperal fever eight, erysipelas four, small-pox one. From *malarial fevers*, New Orleans 19, New York 11, Baltimore nine, St. Louis seven, Chicago, Cincinnati, and Nashville two each, Charleston one. From *whooping-cough*, New York 23, Philadelphia five, Chicago and Baltimore three each, Boston and District of Columbia two each, St. Louis, Providence, and Nashville one each. From *scarlet fever*, New York 10, Chicago and Cincinnati three, Boston, District of Columbia, Pittsburg, and Holyoke two each, St. Louis, Providence, Springfield, Somerville, and Braintree one each. From *cerebro-spinal meningitis*, New York six, Philadelphia five, Nashville and Woburn three each, Cambridge two, Chicago, Baltimore, New Haven, Lawrence, Holyoke, Upton, and Peabody one each. From *measles*, New York 13, Chicago two. From *puerperal fever*, Philadelphia, Boston, and St. Louis two each, Chicago and Cincinnati one each. From *erysipelas*, New York two, Cincinnati and District of Columbia one each. From *small-pox*, New Orleans one.

Cases reported in Boston: typhoid fever 48, scarlatina 45, diphtheria nine, and measles one.

In 110 cities and towns of Massachusetts, with an estimated population of 1,416,011 (estimated population of the State 1,955,104), the total death-rate for the week was 22.9 against 22.10 and 19.75 for the two previous weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending August 30th, the death-rate was 25.3. Deaths reported 4245: infants under one year 1695: acute diseases of the respiratory organs (London) 181, diarrhœal diseases 967, scarlet fever 70, whooping-cough 69, measles 64, fever 52, diphtheria 23, small-pox (London 12, Liverpool, Sheffield, and Sunderland one each) 15. The death-rates ranged from 19.5 in Birkenhead to 37.8 in Preston; Birmingham 32.3; Blackburn 35.4; Bradford 26.6; Leeds 29.8; Leicester 29.5; Liverpool 32.6; London 20; Manchester 34.1; Nottingham 29; Sheffield 28; Sunderland 28.4. In Edinburgh 16.5; Glasgow 25; Dublin 29.9.

For the week ending August 30th, in the Swiss cities there were 59 deaths from diarrhœal diseases, consumption 22, lung diseases 12, diphtheria and croup two, typhoid fever two, small-pox one, measles one. The death-rates were, at Geneva 9.2; Zurich 17; Basle 24; Berne 21.1.

The meteorological record for the week ending September 13th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Sept., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 7	30.050	64	74	62	84	90	92	89	NE	E	SE	15	10	3	C	O	O	—	—
Mon., 8	29.955	72	90	63	82	53	90	75	W	SW	SW	6	10	6	C	F	O	—	—
Tues., 9	29.984	76	89	70	96	68	90	81	W	SE	SW	6	6	5	F	C	C	—	—
Wed., 10	30.004	80	94	71	83	55	87	75	W	SW	Calm.	10	4	0	C	C	O	—	—
Thurs., 11	29.924	69	81	64	100	90	86	92	SE	SE	W	2	7	8	G	C	C	—	—
Fri., 12	30.094	64	93	57	56	41	63	53	NW	NW	NW	14	17	12	C	C	C	—	—
Sat., 13	30.276	54	62	47	68	40	58	55	NW	N	NW	7	20	10	C	C	C	—	—
Mean, the Week.	30.040	68.4	83.5	62.2				74.4										3.20	0.14

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 20, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	686	341	28.28	13.49	17.11	1.60	4.64
Philadelphia	927,995	339	133	16.53	21.66	7.98	9.69	8.55
Brooklyn	644,526	287	138	33.25	16.45	24.50	1.50	3.00
Chicago	632,100	241	140	36.49	7.05	18.68	4.56	5.40
Boston	423,800	—	—	—	—	—	—	—
Baltimore	408,520	175	73	26.22	14.50	10.44	2.32	9.86
St. Louis	400,000	137	57	36.50	6.57	14.60	2.92	6.57
Cincinnati	272,400	98	44	26.32	7.14	7.14	4.08	7.14
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	108	55	38.44	12.48	20.16	7.68	3.44
Pittsburg	180,000	62	25	28.98	11.27	11.27	6.44	11.27
Milwaukee	142,400	65	46	35.42	7.70	23.10	3.08	1.54
Providence	119,405	43	21	37.28	11.65	32.63	2.33	—
New Haven	62,882	24	9	24.96	20.80	16.64	—	—
Nashville	54,400	14	2	64.26	—	7.14	14.28	35.70
Charleston	52,286	27	14	18.52	7.40	7.40	7.40	—
Lowell	71,447	23	9	25.10	8.70	13.05	8.70	—
Worcester	69,442	27	14	29.62	11.11	18.52	—	7.40
Fall River	62,674	29	16	34.48	17.24	27.58	3.45	3.45
Cambridge	60,995	26	12	38.46	15.40	30.80	3.85	—
Lawrence	45,516	24	13	37.44	4.16	29.12	—	4 16
Lynn	44,895	20	10	25.00	15.00	20.00	—	5.00
Springfield	38,090	—	—	—	—	—	—	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	7	4	28.56	—	28.56	—	—
New Bedford	30,144	8	5	37.00	—	37.00	—	—
Salem	29,503	11	4	9.09	9.09	9.09	—	—
Chelsea	24,347	5	1	—	20.00	—	—	—
Taunton	22,693	9	4	33.33	22.22	22.22	—	11.11
Gloucester	21,400	8	5	12.50	12.50	—	12.50	—
Haverhill	20,905	8	2	25.00	25.00	12.50	—	—
Newton	19,421	5	0	—	40.00	—	—	—
Brockton	18,323	12	3	25.00	16.66	25.00	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	6	1	16.66	—	—	—	—
Fitchburg	13,433	3	1	—	33.33	—	—	—
Ninety-one Massachusetts towns	349,175	77	17	7.78	21.07	7.78	—	—

Deaths reported 2850 (no reports from New Orleans and Buffalo): under five years of age, 1324; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 798, consumption 342, lung diseases 142, diarrhœal diseases 453, diphtheria and croup 130, typhoid fever 90, malarial fevers 34, whooping-cough 32, scarlet fever 29, measles eight, cerebro-spinal meningitis eight, erysipelas five, puerperal fever six, yellow fever two. From *whooping-cough*, New York 16, Philadelphia four, Brooklyn three, Chicago and Milwaukee two each, Baltimore, Cincinnati, New Haven, Cambridge, and Haverhill one each. From *malarial fevers*, St. Louis 12, Brooklyn eight, New York and Baltimore five each, Chicago, Cincinnati, Nashville, Charleston, and Newburyport one each. From *scarlet fever*, Chicago seven, District of Columbia six, New York and Philadelphia five each, Baltimore and Providence one each. From *measles*,

New York six, Chicago two. From *cerebro-spinal meningitis*, New York and Philadelphia two each, Chicago, Cincinnati, Worcester, and Lawrence one each. From *erysipelas* Chicago two, St. Louis, Milwaukee, and New Haven one each. From *puerperal fever*, Chicago and Milwaukee two each, Boston, Cincinnati, and Newburyport one each. From *yellow fever*, Brooklyn two, Boston one.

Cases reported in Boston: scarlet fever 44, typhoid fever 34, diphtheria 19, and measles three.

In 109 cities and towns of Massachusetts, with an estimated population of 1,345,140 (estimated population of the State 1,955,104), the total death-rate for the week was 20.64 against 22.09 and 22.10 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending September 6th, the death-rate was 24.1. Deaths reported 4053: infants under one year of age 1471; deaths in London 1529: acute diseases of the respiratory organs (London) 167, diarrhœal diseases 848, whooping-cough 77, scarlet fever 63, fever 55, measles 48, diphtheria 43, small-pox (London 11, Liverpool two) 13. The death-rates ranged from 13.1 in Derby to 38.8 in Bolton; Birmingham 28.7; Blackburn 36.8; Bradford 24.9; Leeds 27.6; Leicester 30.6; Liverpool 31.6; London 19.9; Manchester 30.2; Nottingham 30.8; Sheffield 26.4. In Ediaburgh 15.2; Glasgow 23.9; Dublin 29.3.

For the week ending September 3d, in Paris, there were 175 deaths from consumption, typhoid fever 32, diphtheria and croup 27, measles 18, whooping-cough seven, erysipelas five, scarlet fever three. The death-rate was 21.64.

For the week ending September 6th, in the Swiss towns, there were 34 deaths from diarrhœal diseases, consumption 22, lung diseases nine, typhoid fever eight, diphtheria and croup five, scarlet fever two, erysipelas one, small-pox one. The death-rates were, at Geneva 16.3; Zurich 19.7; Basle 14.7; Berne 22.2.

The meteorological record for the week ending September 20th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date. Sept., 1884.	Barometer. Daily Mean.	Thermometer. Daily Mean.	Thermometer. Maximum.	Thermometer. Minimum.	Relative Humidity. 7.23 A. M.	Relative Humidity. 3.23 P. M.	Relative Humidity. 11.23 P. M.	Relative Humidity. Daily Mean.	Direction of Wind. 7.23 A. M.	Direction of Wind. 3.23 P. M.	Direction of Wind. 11.23 P. M.	Velocity of Wind. 7.23 A. M.	Velocity of Wind. 3.23 P. M.	Velocity of Wind. 11.23 P. M.	State of Weather.[1] 7.23 A. M.	State of Weather.[1] 3.23 P. M.	State of Weather.[1] 11.23 P. M.	Rainfall. Duration. Hrs. & Min.	Rainfall. Amount in inches.
Sun., 14	30.387	52	61	41	67	40	62	56	NW	NW	NW	15	6	5	C	C	C	—	—
Mon., 15	30.268	54	66	44	62	65	80	69	NW	SE	SW	5	12	8	F	C	F	—	—
Tues., 16	29.829	69	78	55	78	43	66	62	SW	SW	SW	10	16	16	O	C	O	—	—
Wed., 17	29.738	71	82	64	70	37	86	64	SW	SW	SW	9	8	8	F	F	F	—	—
Thurs., 18	29.935	62	71	57	67	58	67	64	NW	SE	NW	8	7	8	F	F	O	—	—
Fri., 19	30.233	55	61	48	74	75	88	79	N	E	Calm.	10	11	0	C	C	F	—	—
Sat., 20	30.074	58	70	51	92	67	81	80	SE	SW	W	3	14	9	F	O	C	—	—
Mean, the Week.	30.066	60	69.9	51.5				67.8										1.40	0.04

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM SEPTEMBER 20, 1884, TO SEPTEMBER 26, 1884.

MIDDLETON, PASSMORE, major and surgeon. Having reported from sick leave of absence, assigned to duty at Fort Leavenworth, Kansas. Paragraph 2, S. O. 188, headquarters Division of Missouri, September 19, 1884.

WHITE, ROBERT H., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Gaston, Cal. Paragraph 2, S. O. 110, headquarters Division of California, September 13, 1884.

WILSON, WILLIAM J., captain and assistant surgeon. From Department of Dakota to Department of the East.

GARDINER, J. de B. W., captain and assistant surgeon. From Department of Arizona to Department of the East.

CORBUSIER, WILLIAM H., captain and assistant surgeon. From Department of the East to Department of Arizona.

LA GARDE, L. A., captain and assistant surgeon. From Department of Missouri to Department of Dakota. Paragraph 1, S. O. 220, A. G. O., September 19, 1884.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR TWO WEEKS ENDING SEPTEMBER 27, 1884.

HARMON, G. E. H., passed assistant surgeon. September 16th, from Navy Yard, Norfolk, to Naval Academy.

MCCLURG, W. A., passed assistant surgeon. September 16th, from Naval Academy to Naval Hospital, Philadelphia, Pa.

LEACH, PHILIP, passed assistant surgeon. September 16th, from Hospital, Chelsea, Mass., to the Palos.

COLES, J. W., surgeon. September 16th, as member and recorder of Naval Examining Board, and to Hospital, Philadelphia.

DERR, E. Z., passed assistant surgeon. September 16th, to Navy Yard, New York.

MACKIE, B. S., surgeon. September 16th, from Training Ship Jamestown as member and recorder of Naval Examining Board.

KINDLEBERGER, D., medical inspector. September 18th, from the Hartford, sick.

DICKSON, S. H., passed assistant surgeon. September 19th, permission to leave United States.

BLOODGOOD, D., medical inspector. October 1, 1884, to Washington for examination preliminary to promotion, and as to qualifications for sea duty.

HORD, W. T., medical director. October 1, 1884, as member of Naval Examining Board.

TURNER, T. J., medical director. October 1, 1884, as member of Naval Examining Board.

BOYD, J. C., passed assistant surgeon. September 25, 1884. Placed on waiting orders.

OBERLY, A. S., surgeon. October 1, 1884, to Washington for examination preliminary to promotion, and as to qualifications for sea duty.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting will be held on the second Thursday of October, at four o'clock, P. M. It will be the quarterly meeting, and lunch will be provided.

HENRY M. FIELD, M. D., *Secretary.*

DIED, — September 26, 1884, Luther Clark, M. D., M. M. S. S., of Boston, aged seventy-four years.

BOOKS AND PAMPHLETS RECEIVED. — A Treatise on Physiology and Hygiene for Educational Institutions and General Readers. Fully Illustrated. By Joseph C. Hutchison, M. D., LL. D. New York: Clark & Maynard. 1884.

Original Articles.

THE ABSORPTION OF SUGAR AND ALBUMINOIDS BY THE STOMACH.[1]

BY ROBERT MEADE SMITH, M. D.,
Professor of Comparative Physiology in the University of Pennsylvania.

As the conviction gradually gained ground that absorption in the small intestine could not be attributed to mere filtration and osmosis, and as in default of other plausible explanation the conveyance of foodstuffs into the tissues of the mucous membrane of the alimentary canal was held to be a special function of the protoplasm of the epithelial cells, the question as to how the wall of the stomach absorbed gained in importance; and if the epithelial cells are the main organs of absorption. All the points of contrast which may exist in the manner and rapidity of absorption in the stomach and small intestine will be of great importance in explaining the peculiarities of these organs. For since there is no occasion for doubting the identity of the protoplasmic contents of cylindrical epithelial cells of different localities, the differences in the power of absorption possessed by different cells may be referred to the dissimilarity in structure of the free border of those cells; and as is well known the intestinal and gastric epithelial cells possess these differences in the most marked degree. Indeed this dissimilarity of structure may be sufficient to explain the absorption of fat by the former and its non-absorption by the latter, without acknowledging the necessity for the previous reduction of the fat to the form of an emulsion.

On the other hand, for many hours daily the free surface of the epithelial coat of the stomach is bathed in a fluid whose degree of acidity in other circumstances is sufficient to destroy protoplasmic vitality. And while the escape of the stomach from self-digestion may be explained as due to the neutralization of this acid by the alkali of the blood and lymph, while the above might apply on anatomical grounds to the sub-epithelial tissues, it could scarcely hold for the free protoplasmic surfaces of the epithelial cells. Consequently, if the protoplasm of the gastric epithelial cells preserves its vitality in spite of the fact that it is separated from an acid digestive fluid only by a thin porous cap of mucus, it must either be held that these special cells, in contradistinction to other protoplasmic bodies, escape the action of the gastric acid, or that the acid of the gastric juice so condenses the mucus in the free surfaces of the cells as to prevent further entrance of fluid. In the latter case we could then only expect that the walls of the stomach would be capable of absorption when the acidity of the gastric contents had fallen below a certain degree.

Without regarding the numerous old observations which seemed to prove the absorption of various drugs and poisons by the walls of the stomach, Tappeiner[2] and Von Auret[3] have studied the absorption of sugar and peptone by the stomach by a method which is free from all the objections which might be urged against the earlier investigations. Both of these investigators, the former especially, found that the walls of the stomach were but slightly capable of absorption, and both failed to explain the conditions under which this limited absorption occurred.

From a few experiments made by Prof. C. Ludwig it seemed possible that the stomach of the frog might yield clearer results. Since the stomach of the frog is clothed with an epithelium which in its essential features is identical with that of the mammalian stomach, at his suggestion I commenced a series of studies, part of which were made last summer in Leipzig, and the remainder in the autumn in Philadelphia, on the following plan: The stomach was exposed in frogs which had fasted for at least a week, the pylorus ligated, and the abdominal wound carefully sewed up. After then introducing into the stomach either through the mouth or œsophagus a weighed amount of food of known composition, the frogs were kept for varying lengths of time and then killed by pithing. The stomachs were then excised and their contents collected, tested as to reaction, and weighed in the wet and dry state, and then incinerated; when grape sugar had been introduced the dried residue of the gastric contents was dissolved in a measured quantity of water and the percentage of sugar remaining in the stomach determined by titration with Fehling's fluid. Often instead of in a single frog the pylorus was tied at the same time in a number of frogs, each of which then received the same amount of food, and all were then killed and the contents of their stomachs examined together. By this means individual deviations from the general rule were eliminated as much as possible, and greater certainty in the results assured. And since of the hundred and more frogs subjected to this operation no more died than in an equal number kept in confinement without undergoing any operation it may be concluded that the operation itself does not interfere with the normal activity of the stomach.

Although the stomachs of fasting frogs with the exception of a slight amount of mucus were nearly always found empty, it does not necessarily follow that such would be the case after ligation of the pylorus, since the operative procedures might cause an irritative secretion to be poured out into the stomach; the following experiments were made to settle this point: —

A number of fasting frogs, after ligating the pylorus, were kept alive from one to six days and the contents of their stomachs then examined. With a single exception a small amount of acid mucoid fluid was found which was carefully removed, weighed, and its weight again determined after drying and incineration.

The following tables give the mean figures obtained in numerous experiments: —

After Twenty-four Hours' Ligation of Pylorus.

	Mgr.	In percentage.
Total contents of stomach	504	100.00
Water	496	98.40
Organic matter	7.5	1.49
Ash	0.4	0.07

After Forty-eight Hours' Ligation of Pylorus.

	Mgr.	In percentage.
Total contents of stomach	407	100.00
Water	395	97.00
Organic matter	11	2.83
Ash	0.5	0.11

After Seventy-two Hours' Ligation of Pylorus.

	Mgr.	In percentage.
Total contents of stomach	395	100.00
Water	383	96.97
Organic matter	11.4	2.88
Ash	0.5	0.12

[1] Communication from the Leipzig Physiological Institute.
[2] Zeitschrift für Biologie, xvi.
[3] Archiv f. Anat. u. Phys., 1881.

After Ninety-six Hours' Ligation of Pylorus.

	Mgr.	In percentage.
Total contents of stomach	552	100.00
Water	538	97.46
Organic matter	13	2.35
Ash	1.5	0.27

As a mean of the above determinations it may be stated that after ligation of the pylorus the stomach of the frog contains a fluid which contains 2.35 per cent. of organic matter.

After One Hundred and Twenty Hours' Ligation of Pylorus.

	Mgr.	In percentage.
Total contents of stomach	1040	100.00
Water	1011	96.99
Organic matter	23	2.22
Ash	6	0.58

After One Hundred and Forty-four Hours' Ligation of Pylorus.

	Mgr.	In percentage.
Total contents of stomach	311	100.00
Water	304	97.75
Organic matter	7	2.22
Ash	0.3	0.10

In another case in which the pylorus has been ligated for 144 hours the stomach was completely empty.

The preceding figures show that the percentage of water in the contents of the stomachs of which the pylorus has been ligated for from one to six days is subject to but slight variation, running from 97 to 98.5 per cent. The total contents of the stomach is also nearly a constant quantity, averaging from 300 to 500 milligrammes, in only one case reaching one gramme, and in another case falling to the condition generally found in the stomachs of fasting frogs with open pylorus.

The fact that neither the total amount nor the percentage of water in the contents of the stomach is subject to variation, at any rate not proportionately to the time during which the pylorus remains ligated, deserves especial attention in order to determine whether the secreting activity of the empty stomach ceases shortly after the ligation of the pylorus, and the secreted fluid then remains unabsorbed, or whether the secretion and absorption go on in equal degrees. Without attempting to solve this question, it is sufficient for the purposes of the present research to know that ligation of the pylorus, even when maintained for six days, does not produce any disturbance of function or abnormal secretion which could interfere with or complicate the results of the experiments as to the degree of absorption in the stomach.

THE ABSORPTION OF GRAPE SUGAR.

In three different series of experiments the sugar was introduced into the stomach either dry or in 28.5 or 16.8 per cent. solution. In order to avoid loss and to insure greater purity in the results, when dry sugar was given the pylorus was first ligated, and then a small incision made in the œsophagus, through which the stomach was first dried with absorbent cotton and the sugar then introduced through the same opening. The œsophagus was then ligated at its entrance into the stomach so as to prevent loss through vomiting or by passage into the intestine. The following results were obtained: —

1. *Three Hours after Introduction of Sugar.*

Dry Sugar.			Sugar in 28.5 Per Cent. Solution.			Sugar in 16.8 Per Cent. Solution.		
Sugar.		Water.	Sugar.		Water.	Sugar.		Water.
Given.	Absorbed.		Given.	Absorbed.		Given.	Absorbed.	
173 mgr.	103 mgr.	775 mgr.	200 mgr.	75 mgr.	801 mgr.	182 mgr.	65 mgr.	1275 mgr.

2. *Six Hours after Introduction of Sugar.*

Dry Sugar.			Sugar in 28.5 Per Cent. Solution.			Sugar in 16.8 Per Cent. Solution.		
Sugar.		Water.	Sugar.		Water.	Sugar.		Water.
Given.	Absorbed.		Given.	Absorbed.		Given.	Absorbed.	
200 mgr.	161 mgr.	1049 mgr.	200 mgr.	150 mgr.	1923 mgr.	182 mgr.	71 mgr.	1477 mgr.

3. *Nineteen Hours after Introduction of Sugar.*

Dry Sugar.			Sugar in 28.5 Per Cent. Solution.			Sugar in 16.8 Per Cent. Solution.		
Sugar.		Water.	Sugar.		Water.	Sugar.		Water.
Given.	Absorbed.		Given.	Absorbed.		Given.	Absorbed.	
200 mgr.	175 mgr.	3775 mgr.	400 mgr.	175 mgr.	2088 mgr.	182 mgr.	170 mgr.	1587 mgr.

4. *Twenty-two Hours after Introduction of Dry Sugar.*

Sugar Given.	Sugar Absorbed.	Water.
200 mgr.	150 mgr.	4089 mgr.

5. *Twenty-four Hours after Introduction of Sugar.*

	Dry Sugar.			Sugar in 16.8 Per Cent. Solution.		
	Sugar Given.	Sugar Absorbed.	Water.	Sugar Given.	Sugar Absorbed.	Water.
a.	200 mgr.	186 mgr.	2589 mgr.	182 mgr.	82 mgr.	3351 mgr.
b.	200 mgr.	184 mgr.	516 mgr.	–	–	–

6. *Forty-eight Hours after the Introduction of Sugar.* Sugar entirely disappeared from stomach; this was also the case after *seventy-two hours.* In each instance from 1000 to 2000 milligrammes of water were found in the stomach.

In each one of the above experiments sugar had been absorbed by the stomach, but with different degrees of rapidity, depending on the density of the solution of sugar employed. The following table shows this point more clearly: —

Time after the Introduction of Sugar in Hours.	Dry Sugar.		Sugar in 28.5 Per Cent. Solution.		Sugar in 16.8 Per Cent. Solution.	
	Per Cent. Absorbed of the Amount given.	Per Cent. of Sugar remaining in the Fluid in Stomach.	Per Cent. Absorbed of the Amount given.	Per Cent. of Sugar remaining in the Fluid in Stomach.	Per Cent. Absorbed of the Amount given.	Per Cent. of Sugar remaining in the Fluid in Stomach.
3	60	9.03	38	15.60	30	9.18
6	80	3.72	75	2.60	39	7.51
20	87	0.66	87	1.20	90	0.76
24	92	0.86	97	0.12	44	2.98

From the above it is evident, in the first place, that in equal periods the amount of sugar absorbed increases with the density of the preparation of sugar introduced into the stomach, and consequently the rapidity of absorption sinks in proportion to the amount of fluid poured out into the stomach, facts which would be expected, whatever be the mechanism of absorption. And, in the second place, it is clear that the stomach from which absorption has taken place contains more fluid than was introduced with the sugar.

Amount and Composition of the Fluid poured out by the Stomach.

1. DRY SUGAR.

	Water Poured Out. Mgr.	Residue free from Sugar. Per Cent.	Sugar Absorbed. Mgr.	Relation between Water Poured Out and Absorbed. Sugar = 1.
After 3 hours.	775	2.32	103	0.13
After 6 hours.	1049	2.86	161	0.04
After 19 hours.	3775	2.67	175	–
After 22 hours.	4089	3.04	150	–
After 24 hours.	2589	2.24	186	–
After 24 hours.	516	3.10	184	–

2. SUGAR IN 28.5 PER CENT. SOLUTION.

	Water Poured Out. Mgr.	Residue free from Sugar. Per Cent.	Sugar Absorbed. Mgr.	Relation between Water Poured Out and Absorbed. Sugar = 1.
After 3 hours.	301	3.65	75	0.25
After 6 hours.	1423	2.60	150	0.10
After 20 hours.	1888	2.08	175	0.11

3. SUGAR IN 16.8 PER CENT. SOLUTION.

	Water Poured Out. Mgr.	Residue free from Sugar. Per Cent.	Sugar Absorbed. Mgr.	Relation between Water Poured Out and Sugar Absorbed.
After 3 hours.	375	2.93	65	0.17
After 6 hours.	577	?	71	–
After 18 hours.	687	3.35	170	–
After 24 hours.	2451	?	82	–

To obtain any conception as to the amount and character of this fluid the amount of water introduced with the sugar must be deducted from that found in the stomach at the end of the experiment, and the amount of sugar present in the dried residue must be subtracted from the total amount of the latter.

It is seen from the above tabular statement that the amount of fluid in the stomach increases with the duration of absorption, and with the amount of sugar disappearing from the stomach; and that the amount of fluid actually poured out by the stomach is inversely proportional to the amount of water introduced with the sugar; thus it reaches its greatest amount when dry sugar is given, and is least when the sugar is given in the form of a weak solution. And it further appears that the amount of water by weight poured out by the stomach is always largely in excess of the amount of sugar absorbed.

These results are evidently of an osmotic character, but in searching for the osmotic equivalent it must be remembered that the fluid poured out is not pure water, but a solution of various substances, as shown in the above table in the column which gives the percentage of residue which was free from sugar, and which, since not introduced with the food, must have been contributed by the stomach. Further, the amounts of this residue closely coincide in each case, and, what is well worthy of attention, are almost identical with the amounts of solid residue which were found in stomachs of the frogs in whom the pylorus had been tied and no food given. It might, therefore, be concluded that the gastric glands had been stimulated by the presence of sugar in the stomach. If this be correct then it must also be assumed that two separate and independent processes were going on at the same time in the stomach, a secretion by the glands and an absorption of sugar by the epithelial cells, an assumption which is rendered hardly tenable when it is remembered the reaction of the contents of the stomach after the administration of sugar was never acid, but nearly always markedly alkaline.

Therefore the presence of a solid residue free from sugar can evidently not be regarded as opposed to the absorption of sugar by osmosis, especially when it is remembered that the sugar when absorbed does not

enter pure water, but blood or lymph, whose constituents must also be concerned in the osmotic process.

In concluding this portion of my subject it must be stated that even after the sugar has entirely disappeared from the stomach, forty-eight or seventy-two hours after its introduction, the stomach then contains far more fluid than is found in a stomach whose pylorus has been tied and no food given. Thus after forty-eight hours 1967 milligrammes of fluid with 3.4 per cent. solids were found, and after seventy-two hours 2440 milligrammes with 3.3 per cent. solid.

ABSORPTION OF ALBUMEN.

For experiments as to the absorption of albuminoids, fresh frog's muscle seemed the most suitable food, since, when taken from a fasting animal, it contains but little fat, and is almost constant in the percentage of water which it contains. From several estimations I obtained 78.24 per cent. of water, and 20.83 per cent. of organic matter, figures which very closely correspond with the results of the analyses of Von Bibra, and as all the frogs were kept under similar circumstance these figures, therefore, serve as the data on which my calculations are based.

Before proceeding with the experiments on frogs with ligated pylorus I first gave to each of a large number of normal frogs 200 milligrammes of frog's muscle, and then killed them after the lapse of forty-eight hours. In each case the stomach was found empty, from which it was concluded that the amount given was readily digested.

But when the same amount was given to frogs in whom the pylorus had been previously ligated it was found that a much longer time was required before the food was absorbed; only after ninety-six hours was solution completed. When large amounts of frog muscle, such as 500 or 1000 milligrammes, were given, the time of digestion was still further prolonged, sometimes not being complete after 120 hours.

According to the observations of E. Brücke with artificial gastric juice, this delay in the process of digestion in the ligated stomach may be attributed to the accumulation of digestive products, since the amount of fluid poured out by the stomach increased with the increase of time during which the food remained in the stomach, and the reaction of the contents of the stomach up to the time of complete solution of the food was always strongly acid. The delay could not, therefore, have been due to diminished acidity of the gastric juice.

Since the time required for the solution of a given amount of frog's muscle varied in different animals, the duration of the experiment cannot be used as a means of measuring the progress of digestion. The experiments can only be grouped by comparing the characters of the gastric contents.

With a single exception the stomach in all cases contained more water than was contained in the food, while the organic matters were sometimes in excess, and sometimes less than was contained in the amount of frog's muscle given as food. That a diminution in the amount of organic matter found in the stomach after feeding can only be due to absorption is self-evident, but it does not by any means follow that this difference in weight represents the amount absorbed. On the other hand, the cases in which the organic residue found in the stomach was in excess of that given with the food do not necessarily indicate an interruption in the process of absorption, for the stomach not only contains the amount of food administered, but with the entrance of food the stomach commences to fill itself with gastric juice, as shown by the solution of the food, the acid reaction, and the excess of water. From the experiments made on the secretion poured out into the empty stomach after ligation of the pylorus, and in those in which sugar was given, it can be concluded that, in all probability, in the stomach in which digestion of meat is taking place a secretion, containing from 2.5 to 3.0 per cent. organic residue, will also be poured out. Under the assumption of this percentage, and of the origin of the excess of water in the secretion of gastric juice, it is possible to follow much more closely the steps of the experiments.

In the following series of experiments those are first detailed in which there could be no doubt but that a part of the albuminoids of the food were absorbed, since the contents of the stomach at the end of the experiment were poorer in organic matter than the food. The experiments are arranged according to the degree of difference between the organic constituents of the food and of the contents of the stomach: —

I.

	Duration of Digestion. Hours.	Loss of		In Contents of Stomach.		Degree of Digestion
		Organic Matter. Mgr.	Water. Mgr.	Organic Matter. Mgr.	Water. Mgr.	
1	120	35	135	27	907	Complete.
2	24	104	396	89	758	Incomplete.
3	72	104	396	87	1493	Incomplete.
4	96	104	396	81	1315	Complete.
5	144	42	158	13	576	Complete.
6	96	42	158	12	574	Complete.
7	162	41	156	10	294	Complete.
8	96	42	158	6	514	Complete.
9	48	42	158	6	628	Complete.
10	96	42	158	4	139	Complete.
11	48	208	792	145	1093	Incomplete.
12	24	208	792	142	1149	Incomplete.
13	96	208	792	81	1328	Incomplete.

Since the difference in weight between the amounts of organic matter in the food and in the contents of the stomach after digestion is liable to cause an erroneous estimate of the actual amount of matter which has been absorbed by the stomach, an attempt has been made in the following table to correct these figures. The order of arrangement of the experiments is the same as in the preceding table: in the second column is noted the excess of organic matter in the food given over that found at the end of the experiment in the contents of the stomach, while the third column gives the excess of water in the stomach over that contained in the food. The fourth column is calculated on the supposition that the water of the gastric contents has been secreted as gastric juice and contains 2.5 per cent. of organic matters. If the figures of the fourth column of this table are added to those of the third column of Table I. the sum will represent the amount of organic matters which the stomach must have contained had no absorption taken place; but if the actual amount of organic matter found in the stomach is subtracted from this sum the amount absorbed will be determined; this quantity is represented in the following table in the column headed "Probably absorbed": —

II.

	In the Stomach.		Excess of Water regarded as Secretion, with 2.5 Per Cent. Organic Matter. Mgr.	Amount probably Absorbed. Mgr.
	Less Organic Matter than in Food. Mgr.	More Water than in Food. Mgr.		
1	8	762	19	17
2	15	654	16	31
3	17	1389	34	51
4	23	1019	25	48
5	29	418	10	39
6	30	216	5	35
7	31	138	3	34
8	36	356	8	44
9	36	370	9	45
10	38	19 mgr. less.	3	41
11	63	811	20	83
12	66	457	11	77
13	127	636	13	140

As already stated, in the cases where 500 milligrammes and more of frog's muscles were given as food the stomach still contained undissolved food; nevertheless absorption of the portion of food which had passed into solution had occurred, for less organic matter was found in the stomachs than had been given in the food. Thus there was a loss of organic matter in —

Exp.
2. Of 15 mgr. after 24 hours after feeding with 500 mgr. muscle.
3. Of 17 mgr. after 72 hours after feeding with 500 mgr. muscle.
11. Of 63 mgr. after 48 hours after feeding with 1000 mgr. muscle.
12. Of 66 mgr. after 124 hours after feeding with 1000 mgr. muscle.
13. Of 127 mgr. after 96 hours after feeding with 1000 mgr. muscle.

These differences are too great to fall within the limit of error in weighing. And, moreover, it must be remembered that the amount of organic matter found in the stomach is not derived solely from the food but also from the secretion poured out by the gastric glands, so that the amount absorbed must have been in reality greater than the above figures which give the loss of organic matter. Since the strongly acid reaction of the contents of the stomach points to a continuation of the act of digestion, it follows from the above observations that digestion and absorption can occur simultaneously; or, more strictly, that the power possessed by the gastric epithelium of absorbing digested albumen is not prevented by the contact of a strongly acid secretion.

Since, therefore, absorption commences before solution of the food is complete, it may be expected that simultaneously with or shortly after the completion of digestion the constituents of the food will be absorbed.

If now the experiments in Table I. are examined in which digestion was complete, namely, Nos. 1, 4, 5, 6, 7, 8, and 9, the following differences are found between the amounts of organic matter in the stomach and in the food. In —

1. 8 mgr. after 120 hours after feeding with 137 mgr. muscle, with 35 mgr. organic residue.
4. 23 mgr. after 96 hours after feeding with 500 mgr. muscle, with 104 mgr. organic residue.
5. 29 mgr. after 144 hours after feeding with 200 mgr. muscle, with 42 mgr. organic residue.
6. 30 mgr. after 96 hours after feeding with 200 mgr. muscle, with 42 mgr. organic residue.
7. 31 mgr. after 162 hours after feeding with 195 mgr. muscle, with 41 mgr. organic residue.
8. 36 mgr. after 96 hours after feeding with 200 mgr. muscle, with 42 mgr. organic residue.
9. 36 mgr. after 48 hours after feeding with 200 mgr. muscle, with 42 mgr. organic residue.
10. 38 mgr. after 96 hours after feeding with 200 mgr. muscle, with 42 mgr. organic residue.

If it is supposed that the organic matter found in the stomach is derived solely from the digested food it must then be concluded that in Nos. 8, 9, and 10 of the above series the digested albumen was almost entirely absorbed. But if, on the other hand, it is admitted that an important portion of the chyme is derived from gastric secretion, and my argument is accepted, that the water which is secreted by the stomach brings with it 2.5 per cent. of organic matter, then Nos. 1, 5, 6, and 7 of the above series are also to be included in the group in which the digested albumen was almost entirely absorbed (see Table II.).

Passing now to the consideration of the experiments in which the stomach after death contained not only more water, but also more organic matter, than was given with the food, we find again a confirmation of the statement that the passage of water from the walls of the stomach to its interior carries with it a considerable quantity of organic matter.

The following table brings out these points: —

	Duration of Digestion. Hours.	Loss of		In the Stomach.		Degree of Digestion.
		Organic Matters. Mgr.	Water. Mgr.	Organic Matters. Mgr.	Water. Mgr.	
a.	48	42	158	43	821	Incomplete.
b.	48	42	158	57	955	Incomplete.
c.	120	43	154	46	1567	Incomplete.
d.	90	52	200	58	786	Incomplete.
e.	72	57	219	60	1196	Incomplete.
f.	48	60	228	66	851	Incomplete.
g.	48	104	396	119	1463	Incomplete.
A.	124	42	158	51	1412	Complete.
B.	77.5	36	139	52	1196	Complete.
C.	143	28	106	51	1146	Complete,
D.	192	25	104	52	1903	Faintly acid. Complete, Neutral.

Since after the administration of food a fluid containing organic matter passes into the cavity of the stomach, it is clear that from the mere quantitative comparison of the food and the contents of the stomach no conclusion can be at once drawn as to the degree of absorption which has taken place. But if, as in the consideration of the absorption of organic matter, the calculation is made under the assumption that the excess of water in the stomach over that given with the food has also brought into the stomach 2.5 per cent. of organic matter in solution, it is clear that even when more organic matter is found in the stomach than was contained in the food absorption has nevertheless taken place. This is shown in the following corrected table:

	In the Stomach.		Excess of Water regarded as Secretion, with 2.5 Per Cent. Organic Matter. Mgr.	Probable Amount Absorbed of Organic Food Stuffs. Mgr.
	More Organic Matter than in Food. Mgr.	More Water than in Food. Mgr.		
a.	1	663	17	16
b.	15	797	20	5
c.	3	1513	38	30
d.	6	568	14	8
e.	3	777	19	16
f.	6	625	16	10
g.	15	1077	27	12
A.	9	1256	31	22
B.	8	957	24	8
C.	3	1040	26	3
D.	27	1826	46	17

Although the small amounts absorbed in *A*, *B*, *C*, and *D*, in spite of the total solution of the food, form an apparent contradiction to the earlier experiments

the discrepancy can be readily explained. For it was noted in the experiments in which the sugar was completely absorbed that the stomach did not then empty itself, but even after the lapse of a long interval contained a fluid with 3.3 to 3.4 per cent. organic residue, and it is perfectly warrantable to assume that a similar state of affairs holds in the case of the digestion and absorption of albuminous food; and that being the case, the organic matters found in the stomach in the latter instance may be referred to the fluid secreted by the stomach. Accepting these data as a basis for calculation, it is found that the contents of the stomach in A contains 3.62, in B, 4.34, in C, 4.45, and in D, 2.73 per cent. of organic residue, figures which so closely correspond to the percentage of organic matters in the stomach after it is known that all the food has been absorbed that they cannot be used as an argument against the total absorption of the albuminoid elements of the food.

As to whether the above theories are actually true, or as to what forces are concerned in the absorption of albumen by the mucous membrane of the stomach, no demonstration can be given until chemistry permits a better quantitative separation of the constituents of the gastric juice and the derivatives of digested albuminous food.

At present the assumption that the absorption in the stomach is of the nature of a process of diffusion seems the most probable. Several facts harmonize with this view. In the first place the slowness of absorption; for if it were of an osmotic nature absorption would only be possible when the albumen had been converted into peptone or into some substance not already present in the blood or lymph. Again the fact that the stomach fills itself with fluid in exchange for the absorbed albumen is a further indication of the osmotic character of the process. And finally, the anatomical structure of the gastric epithelium furnishes another point in favor of this view, for the surface exposed to the cavity of the stomach is composed of porous mucus incapable of spontaneous protoplasmic movement.

Apart from all hypothesis, however, the experiments detailed above clearly show the marked difference between absorption in the stomach and in the intestine. For after the completion of digestion the intestine rapidly absorbs both the digested food products and the greater part of the glandular secretions, so that only a comparatively dry residue remains unabsorbed, while in the stomach after the absorption of sugar or albumen there remains a considerable volume of fluid for several hours. It may of course be objected that the state of affairs which exists in a stomach with ligated pylorus does not necessarily hold in that organ when in its normal condition, but the above experiments show that the ligation in the frog is but slightly disturbing, and the most that can be claimed is that in the normal condition the fluids transuded in absorption pass into the intestine to again from there enter the blood.

APPENDIX.

DETAILS OF EXPERIMENTS.

Analysis of Frog's Muscle.

Water	78.2366
Matters soluble in alcohol	1.0323
Matters insoluble in alcohol	19.7823
Ash	0.9486
	99.9998
Water = 78.2366	80.43
Solids = 21.7633	19.57
99.9999 (Rms.)	100 00 (Von Bibra.)

Absorption of Albuminoids.

EXP. I. May 7, 1883. Frog: weight 55.8 grm. Pylorus ligated; 0.2855 grm. frog's muscle introduced into stomach. Contents of stomach after 48 hours = 0.9204 grm. Reaction acid; muscle not completely digested.

Water	0.8505
Insoluble in alcohol	0.0549
Soluble in alcohol	0.0115
Ash	0.0035
	0.9204

EXP. II. May 7, 1883. Frog: weight 48.25 grm. Pylorus ligated at 5.30 P. M.; 0.2755 grm, frog's muscle introduced into stomach. After 72 hours contents of stomach = 1.0575 grm.

Water	0.9955
Soluble in alcohol	0.0160
Insoluble in alcohol	0.0438
Ash	0.0022
	1.0575

EXP. III. May 8, 1883. Frog: weight 55 grm. Pylorus ligated, and 0.253 grm. frog's muscle given. After 90 hours contents of stomach = 0.7860.

Water		0.7236
Insoluble in alcohol	Albumen	0.0470
	Ash	0.0065
Soluble in alcohol		0.0089
		0.7860

Muscle partly digested; reaction acid.

EXP. IV. May 8, 1883. Frog: weight 47.7 grm. Pylorus ligated, and 0.1945 grm. frog's muscle given. After 162 hours muscle entirely digested; reaction faintly acid.

Water		0.2940
Insoluble in alcohol	Albumen	0.0076
	Ash	0.0020
Soluble in alcohol		0 0019
		0.3055

EXP. V. May 10, 1883. Frog: weight 53 grm. Pylorus ligated, and 0.2 grm. frog's muscle given. After 124½ hours muscle entirely digested; reaction weak acid. Contents of stomach = 1.4695.

Water		1.4125
Insoluble in alcohol	Albumen	0.0355
	Ash	0.0063
Soluble in alcohol		0.0152
		1.4695

EXP. VI. May 17, 1883. Frog: weight 47 grm. Pylorus ligated, and 0.134 grm. frog's muscle given. After 143 hours muscle entirely digested; reaction very faintly acid. Stomach contained mucus.

Water		1.1461
Insoluble in alcohol	Albumen	0.0399
	Ash	0.0114
Soluble in alcohol		0.0108
		1.2082

EXP. VII. May 17, 1883. Frog: weight 42.7 grm. Pylorus ligated and 0.130 grm. frog's muscle given. Stomach was not entirely empty. After 192 hours muscle dissolved; reaction neutral.

Water		1.9299
Insoluble in alcohol	Albumen	0.0401
	Ash	0.0073
Soluble in alcohol		0.0119
		1.9892

EXP. VIII. May 23, 1883. Frog: weight 53 grm. Pylorus ligated, and 0.22 grm. frog's muscle given. After 240 hours muscle dissolved; reaction acid. Stomach contained remains of a large, partly digested fly, which was taken out before analyzing.

Water		3.0909
Insoluble in alcohol	Albumen	0.0764
	Ash	0.0422
Soluble in alcohol		0.0247
		3.2342

EXP. IX. May 23d. Frog: weight 51 grm. Pylorus ligated, and 0.175 grm. frog's muscle given. After 7½ hours muscle entirely dissolved; reaction strongly acid.

Water		1.1960
Insoluble in alcohol	Albumen	0.0402
	Ash.	0.0051
Soluble in alcohol		0.0120
		1.2533

EXP. X. May 28th. Frog: weight 47 grm. Pylorus ligated, and 0.22 grm. frog's muscle given. After 120 hours muscle dissolved. Stomach also contained parts of earth worm, which were removed before the analysis; reaction acid.

Water		1.9232
Insoluble in alcohol	Albumen	0.0220
	Ash	0.0065
Soluble in alcohol		0.0124
		1.9841

EXP. XI. May 28th. Frog: weight 39 grm. Pylorus ligated, and 0.197 grm. frog's muscle given. After 120 hours muscle completely digested; reaction strongly acid. Contents of stomach = 1.6184.

Water		1.5670
Insoluble in alcohol	Albumen	0.0330
	Ash	0.0054
Soluble in alcohol		0.0130
		1.6184

EXP. XII. May 28th. Frog: weight 54 grm. Pylorus ligated, and 0.170 grm. frog's muscle given. After 121 hours muscle completely digested; reaction faintly acid. Contents of stomach = 0.9386.

Water		0.9071
Insoluble in alcohol	Albumen	0.0150
	Ash	0.0050
Soluble in alcohol		0.0115
		0.9386

EXP. XIII. June 12th. Eighteen frogs were allowed to fast for three weeks, and then 0.2 grm. frog's muscle inserted in the stomach of each, the pylorus not being ligated. After 48 hours all the frogs had digested the amount of food given. The contents of the stomach was estimated in four of these frogs; reaction faintly alkaline.

Water		0.3085
Insoluble in alcohol	Albumen	0.0125
	Ash	0.0020
Soluble in alcohol		0.0035
Contents of stomach of four frogs		0.3265

In the remaining 13 frogs the pylorus was ligated on June 14th at twelve M. Of these frogs seven received each 0.2 grm. frog's muscle. The stomach was empty in all. See Exp. XIV., XVI., and XVIII. The other frogs received no food. See Exp. XV., XVII., and XIX.

EXP. XIV. After 48 hours' digestion of 0.2 grm. frog's muscle, with ligated pylorus; muscle not entirely dissolved; reaction acid. Contents two frogs = 2.0275 grm.

Water		1.9100	0.9550
Insoluble in alcohol	Albumen.	0.0778	0.0389
	Ash	0.0034	0.0017
Soluble in alcohol		0.0363	0.0181
		202.75	1.0137

} In one frog.

EXP. XV. After 48 hours' ligation of pylorus without food. Contents of stomach in two frogs = 0.8139.

Water		0.7900	0.3950
Insoluble in alcohol	Albumen.	0.0123	0.0061
	Ash	0.0009	0.0004
Soluble in alcohol		0.0107	0.0054
		0.8139	0.4069

} In one frog.

EXP. XVI. After 96 hours' digestion of 0.2 grm. frog's muscle, with ligated pylorus. Muscle entirely dissolved; reaction acid. Gastric contents two frogs = 0.5276.

Water		0.5148	0.2574
Insoluble in alcohol	Albumen.	0.0060	0.0030
	Ash	0.0008	0.0004
Soluble in alcohol		0.0060	0.0030
		0.5276	0.2638

} In one frog.

EXP. XVII. After 96 hours' ligation of pylorus without food. Contents of stomach in two frogs = 1.1040.

Water		1.0755	0.5377
Insoluble in alcohol	Albumen	0.0120	0.0060
	Ash	0.0030	0.0015
Soluble in alcohol		0.0135	0.0067
		1.1040	0.5519

} In one frog.

EXP. XVIII. After 144 hours' digestion, with ligated pylorus, of 0.2 grm. frog's muscle. Muscle entirely dissolved; reaction acid. Contents of stomach of two frogs = 1.1827.

Water		1.1525	0.5762
Insoluble in alcohol	Albumen.	0.0200	0.0100
	Ash	0.0037	0.0018
Soluble in alcohol		0.0065	0.0032
		1.1827	0.5912

} In one frog.

EXP. XIX. After 144 hours' ligation of pylorus without food. Stomach was absolutely empty.

EXP. XX. After 24 hours' ligation of pylorus without food. Reaction acid. Contents of stomach of three frogs = 1.5120.

Water		1.4885	0.4961
Insoluble in alcohol	Albumen.	0.0150	0.0050
	Ash	0.0010	0.0003
Soluble in alcohol		0.0075	0.0025
		1.5120	0.5039

} In one frog.

EXP. XXI. After 72 hours' ligation of pylorus without food. Contents of stomach of three frogs = 1.1845.

Water		1.1490	0.3830
Insoluble in alcohol	Albumen	0.0328	0 0109
	Ash	0.0015	0.0005
Soluble in alcohol		0.0012	0.0004
		1.1845	0.3948

} In one frog.

EXP. XXII. After 120 hours' ligation of pylorus; no food given. Contents of stomach of two frogs = 2.0809.

Water		2.0222	1.0111
Insoluble in alcohol	Albumen	0.0268	0.0134
	Ash	0.0114	0.0057
Soluble in alcohol		0.0205	0.0102
		2.0809	1.0404

} In one frog.

EXP. XXIII. After 144 hours' ligation of pylorus; no food given. Contents of stomach of two frogs = 0.6225.

Water		0.6080	0.3040
Insoluble in alcohol	Albumen	0.0059	0 0029
	Ash	0.0006	0.0003
Soluble in alcohol		0.0080	0.0040
		0.6225	0.3112

} In one frog.

EXP. XXIV. After 96 hours' digestion of 0.2 grm. frog's muscle, with ligated pylorus. Muscle entirely digested; reaction acid. Contents of stomach of four frogs = 1.5455.

Water		1.4955	0.3738
Insoluble in alcohol	Albumen	0.0328	0.0082
	Ash	0.0005	0.0001
Soluble in alcohol		0.0167	0.0042
		1.5455	0.3863

} In one frog.

EXP. XXV. October 9, 1883. Frog. After 96 hours' digestion of 0.2 grm. frog's muscle, with ligated pylorus; frog had fasted ten days. Stomach empty; muscle entirely dissolved; reaction acid. Contents of stomach (one frog) = 0.1428.

0.1385 = water.
0.0038 = organic matter.
0.0005 = ash.

0.1428

EXP. XXVI. Three frogs. After 48 hours' digestion of 0.2 grm. frog's muscle, with ligated pylorus. Muscle not all digested. Contents of stomach of three frogs = 2.6002.

Water	2.4631	0.8210
Organic matter	0.1301	0.0433
Ash	0.0070	0.0023
	2.6002	0.8666

} In one frog.

EXP. XXVII. Five frogs. After 48 hours' digestion, with ligated pylorus, 1.0 grm. frog's muscle given to each. Muscle not dissolved. Contents of stomach of five frogs = 8.8811 grm.

Water	8.0150	1.6030	In one frog.
Organic matter	0.7314	0.1453	
Ash	0.1347	0.0269	
	8.8811	1.7752	

EXP. XXVIII. After 96 hours' digestion of 1.0 grm. frog's muscle, with ligated pylorus. Muscle not all digested. Contents of stomach of four frogs = 5.7069.

Water	5.3143	1.3283	In one frog.
Organic matter	0.3226	0.0806	
Ash	0.0700	0.0175	
	5.7069	1.4264	

EXP. XXIX. After 24 hours' digestion of 1 grm. frog's muscle, with ligated pylorus. Muscle not digested. Contents of stomach of six frogs = 7.9043.

Water	6.8928	1.1488	In one frog.
Organic matter	0.8507	0.1418	
Ash	0.1608	0.0268	
	7.9043	1.3174	

EXP. XXX. After 24 hours' digestion of 0.5 grm. frog's muscle, with ligated pylorus. Muscle not digested. Contents of stomach of four frogs = 3.4356.

Water	3.0320	0.7580	In one frog.
Organic matter	0.3542	0.0885	
Ash	0.0494	0.0123	
	3.4356	0.8588	

EXP. XXXI. After 48 hours' digestion of 0.5 grm. frog's muscle, with ligated pylorus. Muscle not all dissolved. Gastric contents of four frogs =5.8507.

Water	5.3510	1.3377	In one frog.
Organic matter	0.4755	0.1188	
sh	0.0242	0.0060	
	5.8507	1.4625	

EXP. XXXII. After 72 hours' digestion of 0.5 grm. frog's muscle; pylorus ligated. Muscle not all dissolved. Contents of stomach of four frogs = 6.3501.

Water	5.9696	1.4926	In one frog.
Organic matter	0.3475	0.0868	
Ash	0.0330	0.0082	
	6.3501	1.5876	

EXP. XXXIII. After 96 hours' digestion, with ligated pylorus, of 0.5 grm. frog's muscle. Muscle digested. Contents of stomach of four frogs = 5.6041.

Water	5.2611	1.3152	In one frog.
Organic matter	0.3225	0.0806	
Ash	0.0205	0.0051	
	5.6041	1.4009	

EXP. XXXIV. After 120 hours' digestion of 0.5 grm. frog's muscle; pylorus ligated. Muscle entirely dissolved. Contents of stomach of three frogs = 1.4550.

Water	1.3832	0.4620	In one frog.
Organic matter	0.0636	0.0212	
Ash	0.0052	0.0014	
	1.4550		

Time	24 Hours.	48 Hours.	72 Hours.	96 Hours.	120 Hours.
No. of experiment	XXX.	XXXI.	XXXII.	XXXIII.	XXXIV.
Water	0.7580	1.3377	1.4926	1.3152	0.4620
Organic matter	0.0885	0.1188	0.0868	0.0806	0.0212
Ash	0.0123	0.0060	0.0082	0.0051	0.0014

In 0.5 grm. frog's muscle:—

Water	5.40
Organic matter	0.09
Ash	0.01
	0.50 grm.

Absorption of Sugar.

EXP. XXXV. December 11, 1883. 0.25 grm. of crystalline grape sugar (97 per cent. pure) was dissolved in 26 cc. distilled water and mixed with the mucus from the stomach of three frogs, and dried in a crucible in hot-water oven; the residue was then dissolved with gentle heat in 26 cc. water, filtered, and sugar in filtrate estimated with Fehling's solution (1. cc. = 0.005 grm.). 2.7 cc. of the filtrate contain 0.025 grm. sugar.

EXP. XXXVI. 0.1 grm. sugar dissolved with mucus from frog's stomach in water, dried over water bath, residue dissolved in 20 cc. water, filtered, and sugar estimated in filtrate. (1) 2.05 cc. = 0.01 grm. sugar; (2) 2.1 cc. = 0.01 grm.

EXP. XXXVII. 0.2 grm. sugar dissolved in water with contents of frog's stomach, dried in water oven, residue dissolved in water, filtered (during which some was lost), and diluted to 25 cc. As the sugar was only 97 per cent., instead of 0.2 grm. only 0.194 was actually used.

1.75 cc. of filtrate = 0.01 grm. sugar.
25 cc. of filtrate = 0.143 grm.

The missing 0.051 probably lost when filter upset.

The same filtrate was examined in a 1 decimeter tube of Laurent's polarimeter, and gave rotation of the right of 2.8°. As 100° = 20.51 grm. sugar in 100 cc., 2.8° = .143 grm. in 25 cc., or precisely the same result obtained with Fehling's test.

EXP. XXXVIII. Frog. Pylorus ligated; 0.25 grm. undissolved sugar introduced through a glass tube into stomach. After 28 hours contents of stomach = 2.2026 grm.

Water	2.1663
Solids	0.0363
	2.2026

Residue dissolved in water, filtered, and diluted to 15 cc.

(1.) 3.55 cc. = 0.005 grm. sugar.
(2.) 3.7 cc. = 0.005 grm. sugar.

Water poured out into stomach = 2.1663
Sugar absorbed from stomach = 0.225

A little sugar was found in the water in the dish in which the frog was kept; perhaps it came from the urine. The peritonæum was distended with fluid.

EXP. XXXIX. Frog. Pylorus ligated; an opening was made in the lower part of the œsophagus, and the stomach emptied and dried with absorbent cotton. A glass tube was then pushed into the stomach through the opening in the œsophagus, and 0.2 grm. sugar inserted through tube into stomach. The œsophagus was then tied on the gastric side of the opening. After 19 hours contents of stomach = 3.9013, faintly alkaline.

Water	3.7751
Solids	0.1262
	3.9013

Residue dissolved in water, filtered, and diluted to 20 cc. — 4 cc. = 0.005 grm. sugar.

Water poured out = 3.7751 grm.
Sugar absorbed = 0.175 grm.

EXP. XL. Frog. Pylorus and œsophagus ligated, and 0.2 grm. sugar given, as in Exp. XXXIX. Stomach empty. After 22 hours contents of stomach = 4.2637.

Water	4.0889
Solids	0 1748
	4.2637

Residue dissolved in water, filtered, and diluted to 20 cc. — 2 cc. = 0.005 grm. sugar.

Water poured out = 4.0889
Sugar absorbed = 0.150

EXP. XLI. In order to see if secretion of water was produced in the stomach by the manipulation necessary to introduce sugar the pylorus was ligated, and a glass rod inserted into the stomach through an incision in the œsophagus, and moved around about as much as the glass tube would be through which sugar was given. The œsophagus was then ligated. After 96 hours contents of stomach = 0.1031 grm.

Water	0.0999
Solids	0.0032
	0.1031 grm.

Three other similar experiments gave corresponding results: in one instance after 24 hours the stomach was absolutely empty. For the amount of secretion caused by ligation of pylorus, see Exp. XIII. et seq.

EXP. XLII. Frog. Pylorus and œsophagus ligated; 0.2 grm. sugar given as in Exp. XXXIX. After 24 hours contents of stomach = 0.5479 grm.

Water = 0.5156
Solids = 0.0323

0.5479

Residue dissolved in water, filtered, and diluted to 20 cc. — 12 cc. = 0.01 grm. sugar.

Water poured out = 0.5156
Sugar absorbed = 0.0184

EXP. XLIII. Frog. Pylorus and œsophagus ligated: 0.2 grm sugar given as above. After 48 hours contents of stomach = 1.9671 grm.

Water = 1.9011
Solids = 0.0660

1.9670

Residue dissolved in water and diluted up to 25 cc. Contained no sugar.

Water poured out = 1.9011
Sugar absorbed = 0.200

EXP. XLIV. Frog. Pylorus and œsophagus tied: 0.2 grm. sugar given as above. After 72 hours contents of stomach = 2.4398 grm.

Water = 2.3588
Solids = 0.0810

2.4398

Residue contained no sugar.

Water poured out = 2.3588
Sugar absorbed = 0.2000

EXP. XLV. Two frogs. Pylorus ligated and 0.2 grm. sugar given as above to each. After 24 hours, contents of both stomachs = 5.3280, alkaline.

Water	5.1771
Solids	0.1509
	5.3280

Residue dissolved and diluted up to 25 cc. — 4.5 cc. = 0.005 grm. sugar.

Water poured out	2.5885	in each frog.
Sugar absorbed	0.186	

EXP. XLVI. Two frogs. Pylorus tied and 0.2 grm. sugar given to each, as above. After six hours contents of both stomachs = 2.236 grm.

Water	2.098
Solids	0.138
	2.236

Residue dissolved and diluted to 25 cc. — 3.2 cc. = 0.01 grm. sugar.

Water poured out	1.049	in each frog.
Sugar absorbed	0.161	

EXP. XLVII. Frog. Pylorus ligated and 0.173 grm. sugar given as above. After three hours, contents of stomach = 0.862 grm.

Water	0.775
Solids	0.087
	0.862

Residue dissolved and diluted up to 25 cc. — 3.6 cc. = 0.01 grm. sugar.

Water poured out	0.775
Sugar absorbed	0.1036

EXP. XLVIII. Frog. Pylorus and œsophagus ligated and 0.2 grm. sugar given with 0.5 grm. water. After 20 hours contents of stomach = 2.1457 grm.

Water	2.0877
Solids	0.058
	2.1457

Residue dissolved and diluted to 25 cc. — 5 cc. = 0.005 grm. sugar.

Water poured out	1.5877
Sugar absorbed	0.175

EXP. XLIX. Frog. Pylorus and œsophagus tied and 0.2 grm. sugar and 0.5 grm. water given. After three hours contents of stomach = 0.9373.

Water	0.8013
Solids	0.136
	0.9373

Residue dissolved and diluted to 25 cc. — 2 cc. = 0.01 grm. sugar.

Water poured out	0.3013
Sugar absorbed	0.075

EXP. L. Frog. Pylorus and œsophagus tied: 0.5 grm. water and 0.2 grm. sugar given. After six hours contents of stomach = 2.0088 grm.

Water	1.9230
Solids	0 0868
	2.0098

Residue dissolved and diluted to 25 cc. — 5 cc. = 0.01 grm. sugar.

Water poured out	1.423
Sugar absorbed	0.150

EXP. LI. Frog. Œsophagus and pylorus tied: 0.2 grm. sugar and 0.5 grm. water given. After 27½ hours contents of stomach = 4.1065 grm.

Water	3.9165
Solids	0.1900
	4.1065

Residue dissolved and diluted to 25 cc. — 22 cc. = 0 195 grm. sugar.

Water poured out	3.4165
Sugar absorbed	.195

EXP. LII. Frog. Œsophagus and pylorus tied: 0.9 grm. water and 0.182 grm. sugar given. After three hours contents of stomach = 1.403 grm.

Water	1.275
Solids	0.128
	1.403

Residue dissolved and diluted to 20 cc. — 1.7 cc. = 0.01 grm. sugar.

Water poured out	0.375
Sugar absorbed	0.065

EXP. LIII. Frog. Pylorus and œsophagus tied: 0.9 grm. water and 0.182 grm. sugar given. After six hours contents of stomach = 1.6242 grm.

Water	1.4770
Solids	0.1472
	1.6242

Residue dissolved and diluted to 25 cc. — 2.25 cc. = 0.01 grm. sugar.

Water poured out	0.5770
Sugar absorbed	0.071

EXP. LIV. Frog. Pylorus and œsophagus tied: 0 9 grm. water and 0.182 grm. sugar given. After 18 hours contents of stomach = 1.6223 grm.

Water	1.0353
Solids	0.5870
	1.6223

Residue dissolved and diluted to 20 cc. — 11.5 cc. = 0.01 grm. sugar.

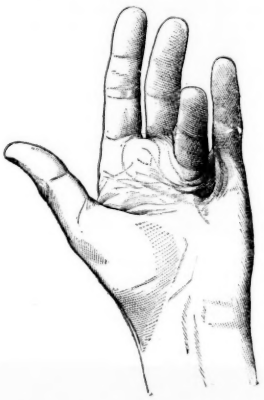
Water poured out	0.1333
Sugar absorbed	0.1700

A CASE OF DUPUYTREN'S CONTRACTION.

BY EMERSON WARNER, M. D., WORCESTER, MASS.

G., a clergyman of distinction throughout New England and beyond, had been affected with this disease since he reached the age of forty. He is tall and slender, and of a bilio-nervous temperament. He has not for years enjoyed the best of health, yet has been able most of the time to perform pulpit service. The trouble in his hand began first as a feeling of soreness and hardness in the palm of his right hand. It slowly increased till it involved the little, ring, and middle finger of each hand, causing a marked deformity, flexing and drawing the fingers forward towards the palm of the hand, wrinkling and hardening the skin over

the metacarpo-phalangeal joint. Four years after the right hand began to be affected the left hand first showed signs of trouble. The ring finger of this hand was attacked, and it suffered more from contraction than the fingers of the right hand. At the middle phalangeal joint the finger made nearly a right angle. This was an awkward deformity for a public speaker to be continually thrusting into the face of his hearers. It was difficult to put on gloves, and in every way it was a more or less painful annoyance.



He had often applied for help, not only to the writer but to many another surgeon, but only to be told that nothing could be done. He had made up his mind to endure this state of things, and constantly and surely,



though slowly, growing worse until, perchance, amputation of one or more fingers might give the only relief which he could obtain.

About the beginning of the present year he called my attention to the work of Mr. William Adams on this subject, of which he had learned through a gentleman in Philadelphia, who had been operated by Dr. Keen of that city. So far as we then knew this was the only operation, as described by Mr. Adams, that had been done in this country. He asked that this operation might be done for his relief.

On the first day of March I operated upon his left hand, choosing this first as only one finger was involved. I used a very small knife, used mostly by oculists, consisting of little more than a very sharp point and a cutting edge. A sufficient number of subcutaneous incisions were made to cause the deformity to disappear. The finger at once appeared natural, was easily flexed, and took its place beside the other fingers, ready for duty, as though never crippled or in any degree disabled. It was laid on a splint, and an antiseptic dressing applied. The next day he was perfectly comfortable, and went about as usual, except that he did not leave the house.

On the 15th of March, two weeks later, he submitted to operation on the right hand. He then could use his left hand, and on the first Sunday in April he assumed the pulpit duties of a Brooklyn pastor who had been granted a three months' furlough. The patient feels himself relieved of a very serious deformity, and I see no reason why he should fear its return.

As the history shows, this disease occurred in a clergyman in middle life, and, so far as known, it was not caused by any injury, nor can it surely be traced to a strangely marked gouty diathesis. He has a brother, a little younger, who is suffering slightly from the incipient stage of the disease, but there is as yet no deformity.

On March 25th of the current year Mr. Noble Smith read a paper on this subject before the Royal Medical and Chirurgical Society of London. April 17th Dr. Robert Abbe read a paper before the New York Academy of Medicine on the same subject. Thus does the subject receive a new impetus at about the same time in these widely separated localities.

Reports of Societies.

MEETING OF THE AMERICAN GYNECOLOGICAL SOCIETY.

THE ninth annual meeting of the American Gynecological Society was held at Chicago Tuesday (September 30th), Wednesday, and Thursday. The meetings were held at the Palmer House, the President, DR. ALBERT H. SMITH, of Philadelphia, presiding. Twenty-three Fellows were present.

DR. W. H. BYFORD, of Chicago, the chairman of the Committee of Arrangements, delivered a brief address of welcome, in which he touchingly alluded to the great loss the Society had sustained since its last meeting in the death of Dr. J. Marion Sims.

DR. JOHN C. REEVE (Dayton, Ohio), presented a paper on several

MOOT POINTS IN REGARD TO INVERSION OF THE UTERUS.

Several cases were cited tending to prove that it was possible for uterine inversion to occur without the influence of pregnancy or an existing uterine tumor, and that, while inversion usually begins at the fundus, it oftentimes happens that the inversion begins with the

cervix. The cases which he had observed also demonstrated the fact that, although an inversion occurring during the puerperal state usually takes place immediately after delivery, it may occur several days later. He also cited several cases in which an inversion had occurred unaccompanied by those symptoms which are usually considered inseparable from such an accident. In the discussion which followed corroborative evidence was given by Drs. Byford, Sawyer, and Howard.

DR. H. P. C. WILSON (Baltimore) read a paper on

FOREIGN BODIES IN THE ABDOMEN AFTER LAPAROTOMY,

in which he gave a summary of twenty-one cases, six occurring in this country and fifteen in Europe, in which a foreign body, usually a sponge, had been left behind within the abdominal cavity. Among the cases cited was one occurring in his own practice in which he had removed an ovarian tumor from a patient between five and six months advanced in pregnancy. A miscarriage occurred on the eighteenth day after the operation. After a tedious convalescence the patient so far recovered as to go to her home in the country. Soon after she began to develop abdominal symptoms, and five months later a piece of sponge worked its way to the surface, and was removed; the local symptoms subsiding and the patient making a complete recovery. He believed that operators did not use sufficient care to avoid such accidents, and advised that, in all such operations, as few instruments and sponges as possible should be used; the sponges should be selected with especial reference to their perfectness, strength, and softness; that no divided sponges should ever be used; the instruments should not be too small, and there should be as few assistants as possible.

DR. THOMAS said that in four hundred cases of laparotomy he had only seen this accident happen once. The patient had presumably a cancer of the spleen and Bright's disease. An exploratory incision was made, the diagnosis verified, and the incision sewed up. In this case ether was used, which he would not advise at the present time, as he was convinced that, in cases of renal disease, a cessation of urinary secretion follows the use of ether, an accident which never follows the use of chloroform. In this case not a drop of urine was secreted after the administration of the ether, and the patient soon became comatose and died of uræmic poisoning. At the autopsy a piece of sponge was found in the abdominal cavity. So great was the liability to leave a sponge behind that he now always used sponges to each of which a tape, six inches in length, was attached.

DR. DUNLAP recommended the making of a long abdominal incision, which heals as readily and as perfectly as a short one, and helps to prevent the occurrence of foreign bodies being left within the abdominal cavity.

DR. MUNDÉ thought great care should be taken not to use friable sponges or those which had torn or roughened edges. In the final clearing out of the abdominal cavity sponges attached firmly to sponge-holders only should be used. During the discussion seven new cases were reported by different members in which some foreign body had been left behind by the operator.

At the afternoon session DR. C. D. PALMER, of Cincinnati, read a paper on the

VALUE OF ABDOMINAL SECTION AS A MEANS OF DIAGNOSIS.

Tapping had been shown by statistics to be a far more dangerous procedure, and at best only gives us an idea of the contents of the tumor, but no information as to its surroundings or even, in many cases, its location. The abdominal section was comparatively harmless except in cases of cancerous subjects.

DR. WILSON agreed with the writer, and cited the case of a patient in whom he had made an exploratory abdominal incision and found the case to be one of amniotic dropsy. The wound was sewed up, the os uteri dilated, and six gallons of amniotic fluid withdrawn, and the uterus cleared of its contents. In two weeks the patient was well.

DR. ENGELMANN did not agree with the reader in believing the operation any more dangerous in cancerous than in non-cancerous subjects.

VAGINAL ENUCLEATION OF CERVICAL FIBROIDS.

DR. PAUL F. MUNDÉ (New York) read a paper in which he strongly advocated the vaginal enucleation of cervical fibroids when they were a cause of dystocia. As proof of his statement he reported a case in which he had removed under such circumstances a very large fibroid, weighing three pounds, and gave a summary of nine cases he had collected, in all of which the mother recovered, and of the five viable children three were born alive; while of thirty cases of Cæsarean section, performed under similar circumstances, twenty-four of the mothers had died and sixteen of the children had been lost.

WEDNESDAY.

The discussion of Dr. Mundé's paper was opened by DR. JENKS, who cited a case in which he had removed a small fibroid by enucleation.

DR. BYFORD thought it was better in all cases of uterine tumors to wait until labor came on. Enucleation performed earlier exposes the mother to the same danger as if done at the time of labor, but gives rise, in addition, to the great probability of a miscarriage.

DR. VAN DE WARKER had seen, in consultation, a case which had been thirty hours in labor, and in which the pelvis was filled with a fibroid of the posterior cervical wall. He advised enucleation, but was overruled. Cæsarean section was performed, and the mother died of shock. The autopsy showed that enucleation could have been easily performed. In this case the child was saved.

DR. REAMY had enucleated a tumor in one case, and both mother and child had done well. The operation, he believed, should be done at the time of labor, for he was convinced that patients were less liable to sepsis at that time.

In closing DR. MUNDÉ thought that many circumstances should decide the time of the operation, such, for example, as the growth of the tumor, its location, and general characteristics.

EXTRA-UTERINE PREGNANCY.

DR. THOMAS (New York) presented a report of six cases of extra-uterine pregnancy, being a supplementary report to that read by him two years ago in Boston, in which he reported twenty-one cases. These cases were reported in detail, and illustrated many points in the diagnosis and treatment of this rare acci-

dent. The reader dwelt on the necessity of early making out a diagnosis, since in these cases delays are dangerous, and prompt action an absolute necessity. An operation should never be performed at full term simply because there is a fœtus in the abdomen, but only when the presence of that fœtus is causing trouble. The better plan is to wait until atrophy of the placenta has taken place. If the child is alive in the abdomen at full term of course it should be removed even at the increased risk to the mother. In the electric current we have the best agent for infanticide, which is the first step towards recovery. Up to the fifth month this should always be used in preference to a resort to the far more dangerous procedure of laparotomy. In cases where the fœtus is in the tube rupture takes place within the first four months. After that the fœtus is probably within the abdominal cavity, and whenever its presence there has been clearly made out electricity should be used unless the child is alive, in which case the patient should go to full term, and then laparotomy is indicated. The weaker forms of electricity should first be used, although it was astonishing how powerful a current had proved, in some cases, harmless to the fœtus as well as the mother.

DR. MUNDÉ reported a case in which he had operated successfully. He preferred to use the faradic rather than the galvanic current, believing it to be safer and equally efficacious.

DR. WILSON reported a case of a woman pregnant with twins. The one in the uterus was delivered at term, and the one in the abdomen was delivered by laparotomy a month later, — both children living.

DR. BAKER, in support of some of the facts brought forward in Dr. Thomas's paper, namely, the difficulty of diagnosis before the third month and the danger of aspiration in cases of hæmatocele complicating the pregnancy, reported four cases, three of which were seen in consultation. The first was a patient in whom all the rational signs of extra-uterine pregnancy were present, and ether was given in order to confirm the diagnosis by physical examination. Two days before there had been symptoms of internal hæmorrhage, with almost collapse, but the patient having recovered sufficiently the attempt was made with the anæsthetic. The examination failed to substantiate the diagnosis, and the patient sank while under the ether and died. The autopsy showed tubal pregnancy of six or seven weeks' standing, with an unruptured sac, and about two quarts of blood within the peritoneal cavity, hæmorrhage having occurred from a small vessel at the end of the tube. It would have been a perfect case for laparotomy had the diagnosis been made earlier. In another case aspiration of a post-uterine tumor supposed to be hæmatocele gave bright blood, which contra-indicated further operation, and the patient died from exhaustion in two or three days. An autopsy showed a rupture of the tube, with hæmorrhage and escape of a three months' fœtus within the abdominal cavity. The remaining two cases recovered, though not owing to any special skill of the reporter. One was a patient operated on for sterility, who became pregnant within two months after leaving the Free Hospital for Women, but the site of the pregnancy was a left tubo-interstitial one. The fœtus died in the fifth month, and has since remained encysted, gradually shrinking to about one third of its greatest size. The last case was seen about four years after the death of the fœtus, which had apparently taken place at the sixth month. The fœtal parts could be distinctly felt. No operative interference was advised, and the encysted fœtus has remained, occasioning little if any inconvenience. This patient has within eighteen months given birth to a child in the most natural manner.

DR. MAURY (Memphis) read a case of

TUBAL PREGNANCY,

with subsequent rupture of the sac. He believed it was a great mistake to operate at the time of the rupture, but that we should always wait until the period of shock was passed.

DR. MUNDÉ read a paper on

THE LIMITS OF VAGINAL HYSTERECTOMY FOR CANCER,

illustrated by two cases. The paper was in answer to one read last year by Dr. Jackson, in which the writer had pronounced the removal of a cancerous uterus an unjustifiable procedure. In the first of the two cases reported by Dr. Mundé the patient recovered from the operation. A recurrence of the disease took place in nine months, although the patient is still alive. In the second case the disease was found to have spread to the vaginal wall, and the patient died of shock from internal, concealed hæmorrhage. Dr. Mundé agreed with Dr. Jackson that, owing to patients' unwillingness to submit early to examinations a diagnosis was often impossible until the disease was too far advanced. He disagreed entirely with the second statement of Dr. Jackson, that the operation was only for amelioration. He had collected the reports of eighty-two operations. In forty-eight the disease had recurred in from two months to two and a half years, while in thirty-two cases there had been no recurrence. In other words, 39.2 per cent. of patients in whom the operation had been performed early, over one third, had been free from any recurrence for at least two years or more. He believed that the operation should be confined to a small class of cases, to those where the cancerous degeneration was limited to the uterus, and in that organ had extended up beyond where the operation of incision could be performed; where there was perfect freedom of uterine motion, the vagina capacious, and the patient in good condition to withstand the shock of the operation, although this was comparatively slight. As regards the danger of the operation, its fatality was constantly becoming less as operators were becoming more experienced. Out of 256 cases which he had collected there had been sixty-two deaths, or 24.6 per cent.

In reply to the paper, DR. JACKSON said all operations must be judged by the principles underlying them. All surgical operations should be done either to relieve suffering or to prolong life. This operation, he claimed, did neither. It lessens the sufferings only of those whom it kills. The recurrence of the cancer brings with it the same suffering and the same death. Cases of cancer unoperated have lived fully as long as those on whom the operation has been performed. He felt confident that the area of the operation was a very limited one and would become more so. Removal can be accomplished far less dangerously by other means, and with equally good results.

DR. VAN DE WARKER thought there were other and safer ways of operating. It must be very rare, in his opinion, that the extirpation removed beyond the line of infiltration. He thought in examining the figures read by Dr. Mundé that the cases of recurrence should be considered with reference to whether the

patients were menstruating or had passed beyond the climacteric; for there is a marked tendency in the first class of cases to recur which does not obtain in women later on in life.

DR. ENGELMANN agreed with Dr. Mundé *in toto*. It is an operation which should be fairly tested. The statistics are improving. Time has not elapsed sufficiently to show how long these patients in whom it has not yet recurred are going to be free from a recurrence. The whole thing is *sub judice* and not warranting Dr. Jackson's wholesale condemnation.

DR. PALMER agreed that the mortality caused by the operation will doubtless be still further reduced; but the impossibility of diagnosticating the extent to which the cancer has extended will rule out the operation.

DR. BAKER alluded to six cases which he had previously reported to the Society, in which he had operated by a method fully described in the *American Journal of Obstetrics* for April, 1881. Five of these patients are still well, from four to six years having elapsed since the operation, while the remaining one has succumbed to a return of the disease after a respite of about three years.

DR. REAMY claimed that the operation does not prolong life. Statistics are needed to show how long patients live with cancer in whose cases no operation is performed. The disease will be found to have extended into the tissues so far that recurrence is sure to come. The operation can be done more safely than heretofore, but the statistics do not prove that life is prolonged, and he agreed with Dr. Jackson that the operation was unwarranted.

DR. MUNDÉ closed the discussion by repeating the main points of the paper, which he considered had not been answered.

THURSDAY.

At the opening of the morning session the President, DR. ALBERT H. SMITH (Philadelphia), delivered the annual address, taking as his subject

THE PRESENT ASPECT OF THE PUERPERAL DISEASES.

The paper was largely historical, and gave in detail the present position held by observers at home and abroad. The writer favored the continued use of antiseptics, and insisted on the great value and harmlessness, when properly used, of intra-uterine injections.

DR. SAWYER (Chicago) made some remarks on

THE OCCIPITO-POSTERIOR POSITION IN VERTEX LABORS,

illustrating his paper with an analysis of thirty-five cases. He claimed that the occiput presented much more frequently posteriorly than was supposed, and that rotation forward was the exception and not the rule. He favored the rotation either by the hand introduced within the vagina or by long forceps whose handle was a curve continuous with the curve of the blade.

DR. RICHARDSON differed entirely from Dr. Sawyer. He agreed with him that these positions were among the most troublesome to be found in obstetric practice. He, however, believed that in all cases, if the flexion of the head was complete, the occiput would rotate forward. Where it does not, as in Dr. Sawyer's cases, it was either because the head was partially extended or because the presenting part had not yet reached the floor of the pelvis. The treatment in these cases should be to flex the head either manually or by the introduction of the ordinary forceps with the pelvic curve downwards instead of upwards. In the vast majority of cases all will then go well. There was no call for special forceps for such cases.

DR. REAMY did not agree at all with Dr. Sawyer either as to the frequency of these cases or their failure to rotate forward. In all cases as soon as the position is known, and the os sufficiently enlarged, correct the misplacement in the absence of a pain with the forceps — the straight-handled forceps being just as good as this new curved pair.

DR. HOWARD recommended the use of Tarnier's forceps in these cases.

DR. ENGELMANN thought that too much stress should not be laid on the instrument, but on the necessity of a judicious use of any forceps in the hands of the operator.

DR. SMITH totally disagreed with Dr. Sawyer on the several points on which the paper was based, and agreed with the other speakers on the facility with which the head can be rotated, even in those rare cases in which a failure of rotation has taken place.

AN INSIDIOUS AND FATAL FORM OF SEPTICÆMIA.

DR. ENGELMANN (St. Louis) read a paper giving the account of several cases in which a most insidious and fatal form of septicæmia was developed. They were cases in which, in the absence of the usual symptoms, intuition and not medical skill seemed to be our guide. There was in all a marked absence of either fever or pain. The danger seemed greatest where the symptoms were least, or even wanting. A slight diarrhœa and a possible elevation of temperature to a degree were the only symptoms. Neither the temperature nor pulse revealed the cause of the fatal result which followed in all the cases. The cases were non-puerperal and puerperal.

DR. RICHARDSON confirmed the statement of the reader, and alluded to several cases of puerperal origin in which he had noticed this same absence of the usual symptoms of septicæmia. There was in all his cases at first a day or two of suspicious symptoms, but after these had passed there were left only a slight diarrhœa and what he had noted in all the cases, a well-to do mental condition, the patient always considering themselves as "well." The marked progressive general failure alone showed the mischief.

DR. REAMY confirmed the opinion of Dr. Engelmann, and said that all cases in which there was an abdominal distention without pain but with a diarrhœa he looked upon with suspicion.

DR. JOHNSON cited a case in which death had occurred on the ninth day after delivery, in which all the symptoms were as Dr. Engelmann had described.

PAPERS READ BY TITLE.

The following papers were read by their titles:—

The Hygiene of Pregnancy, by Dr. Samuel C. Busey, Washington.

Rapid Dilatation of the Cervical Canal, by Dr. Wm. Goodell, Philadelphia.

The Physiognomy of the Vulva as a Sequence of Anal Disease, and the Cause or Sustaining Cause of Uterine Disease, by Dr. Isaac E. Taylor, New York.

The Early History of the Treatment of Vesico-vaginal Fistulæ in the United States, and the Statistics of the Several Modes of Operating, by Dr. Nathan Bozeman, New York.

Contributions to the Topographical and Sectional Anatomy of the Female Pelvis, by Dr. David B. Hart, Edinburgh.

Fibro-myomata and Fibro-cystic Myomata of the Uterus — their Diagnosis, Prognosis, Pathology, and Treatment, with Cases and Specimens, by Dr. R. S. Sutton, Pittsburg.

The Ring of Bandl, by Dr. W. T. Lusk, New York.

The new President, Dr. Howard, was introduced to the Society, and the meeting adjourned.

THE BUSINESS MEETING

was held Wednesday evening at half-past eight o'clock. The limit of membership was changed from sixty to one hundred. It was voted to hold the next meeting at Washington on the last Tuesday but one of September and the following Wednesday and Thursday.

Dr. George E. Bantock, of London, was elected an Honorary Fellow.

ELECTION OF OFFICERS.

The following officers were elected: —

President: Wm. J. Howard, of Baltimore.

Vice-Presidents: Wm. L. Richardson, of Boston; Paul F. Mundé, of New York.

Secretary: Frank P. Foster of New York.

Treasurer: Matthew D. Mann, of Buffalo.

Council: Joseph T. Johnson, of Washington; A. Reeves Jackson, of Chicago; H. P. C. Wilson, of Baltimore; E. Van de Warker, of Syracuse.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILORS' MEETING.

A STATED meeting of the Councilors was held at the Medical Library, Boston, on Wednesday, 1st inst., at eleven o'clock A. M. The meeting was called to order by the President, DR. CHARLES D. HOMANS.

APPOINTMENT OF DELEGATES.

Delegates to other State medical societies were appointed as follows: —

Vermont, DRS. A. M. SMITH, of Williamstown, N. S. BABBITT, of North Adams.

New York, DRS. A. C. DEANE, of Greenfield, F. K. PADDOCK, of Pittsfield.

THE SHATTUCK PRIZE.

The Committee on Publications reported, through DR. HODGES, that the Society's prize fails to induce competition, and the committee has, therefore, decided to request that instead of the prize as now offered the income of the Shattuck Fund be appropriated for the objects set forth in the terms of the bequest of the donor. The following resolution was presented by the committee: —

Voted, That the Committee on Publications be directed and authorized to offer a prize of $1000 for an essay on the Climate and its Modifications as Influencing Health and Disease, or on any of the diseases of the inhabitants of New England, or on any kindred subject, such essay, with a sealed envelope containing the author's name, to be delivered to the chairman of the Committee on Publications on or before the first day of March of the year 1888. It is understood that such prize shall be given at the annual meeting of that year, and only to an essay deemed worthy of it by the committee.

After discussion the report of the committee was accepted, and its recommendation adopted.

THE NORFOLK SOUTH DISTRICT MEDICAL SOCIETY.

The committee to which was referred at the previous meeting the petition for the establishment of the Norfolk South District Medical Society, to consist of Fellows of the Society residing in the towns of Quincy, Braintree, Randolph, Holbrook, Weymouth, Hingham, and Cohasset, reported through its chairman, DR. HODGES.

The report stated that the District Societies of Norfolk and Plymouth, duly and individually notified, were ably represented at a hearing on July 11th, and the proposal was discussed in detail by those present. The committee recommended that the prayer of the petitioners be granted. This recommendation was adopted by the Council.

CHANGES IN COMMITTEES.

By the resignation of DR. WELLINGTON from the Committee on Finances the following changes were made in Standing Committees: —

DR. FRANCIS MINOT was transferred from the Committee on Membership and Resignations to the chairmanship of the Finance Committee, and DR. JOSEPH STEDMAN was appointed to fill the vacancy thus made in the Committee on Membership and Resignations.

MEDICAL DIPLOMAS. — BOARDS OF CENSORS.

The following, offered by DR. H. P. BOWDITCH, as amended by Dr. Minot, was, after discussion, adopted: —

That the Standing Committee on Medical Diplomas be requested to consider and report at the next meeting on the propriety of adding to the list of recognized colleges the names of the following medical schools: University of Berne. University of Zurich. Woman's College of the New York Infirmary. Woman's College of Pennsylvania. Medical School of Paris. And also the names of any other regular schools which may be referred to said committee by any Councilor as graduating or having graduated women as physicians, whether such school be American or foreign.

That the committee also take into consideration diplomas of foreign medical colleges as evidences for admission into the Society.

In the discussion on the adoption of the above resolution, DR. REYNOLDS remarked that, in his opinion, years of study and success as practitioners should count for something, as well as the passing of an examination, in admission to the Society, and he believed that by a single Board of Censors the object of the Society, to discriminate between those who are fitted to practice medicine and those who are not, would be more likely to be attained than by the present method of admission by several Boards.

In approval of these remarks DR. HAZELTON offered the following: —

That a committee of five be appointed by the Pres-

ident to consider if it be proper to take steps to change the Constitution and By-laws in regard to the Boards of Censors.

DR. BRONSON said that the remarks of Dr. Reynolds were exceedingly pertinent and worthy of attention. The change proposed would be of immense advantage to the Society.

DR. DUDLEY stated that two years ago he was a member of a committee which had this subject before them. They found that to institute such a change it would be necessary to have the Charter altered by the Legislature.

DR. HARVEY argued that the fact that the subject has been one of inquiry by committees shows the present methods not to be satisfactory.

After further discussion DR. HAZELTON'S motion was adopted, and the committee was instructed to report at the next meeting.

The following were appointed to constitute the committee: Drs. I. H. Hazelton, J. P. Reynolds, J. C. Gleason, E. H. Bradford, E. B. Harvey.

HONORARY MEMBERS.

DR. BRONSON called attention to the statement made at the annual meeting of the Society, that of late years all honorary members of the Society had been illegally elected, and asked if such is the case.

In reply the By-law was read regarding the election to honorary membership, and it was stated that its provisions had been complied with.

Adjourned at 12.15 P. M.

CHICAGO MEDICAL SOCIETY.

LISTON H. MONTGOMERY, M. D., SECRETARY.

STATED meeting, September 15, 1884. DR. D. A. K. STEELE, President.

CONGENITAL MALFORMATION OF THE STOMACH. — EXHIBITION OF BONY TUMOR OF PELVIS. — RESOLUTIONS IN BEHALF OF THE NATIONAL BOARD OF HEALTH LOOKING TO SANITARY MEASURES FOR THE RESTRICTION OF CHOLERA, YELLOW FEVER, ETC.; APPOINTMENT OF COMMITTEE. — MEDICAL DEPARTMENT OF THE PUBLIC LIBRARY.

The following scientific and other important business as announced was transacted: —

DR. C. W. EARLE read a brief paper on Congenital Malformation of the Stomach, and presented the stomach of an infant that lived for twelve days on the minutest quantity of nourishment. The autopsy revealed that no opening existed between the stomach and duodenum, nor was there a pylorus. It was ascertained, however, that biliary matter had been discharged in the fæces. The same gentleman also read a report of a case of Bony Tumor of the Female Pelvis, and exhibited the pathological specimen, which weighed three pounds and a half. Both specimens were regarded as being rarely seen, and the cases were informally discussed, after which the Secretary, DR. LISTON H. MONTGOMERY, presented the following preamble and resolutions, and moved their adoption: —

Whereas, From present reports and indications in foreign countries cholera and yellow fever (both pestilential diseases) prevail, and as the latter especially is always assuming a threatening attitude toward us, and is not conducive to our national prosperity nor to public health, and should, if possible, be averted with earnest and efficient sanitary measures, and

Whereas, Cholera may make its appearance on this continent ere another twelve months should elapse, and should likewise, if possible, be averted or restricted to the narrowest limits, therefore

Resolved, That it is the sense of the Chicago Medical Society to have that department of the government relating to public health recognize the services of able sanitarians who constitute the National Board of Health for the purpose of coöperating with municipal, State, and other organizations of a similar kind, and that a committee of seven (7) members of this Society be appointed by the Chair to draft suitable resolutions in behalf of said National Board.

Resolved, Furthermore, that this committee present said resolutions to the Congress of the United States, memorializing that body to make a sufficient appropriation for the purpose of said Board for scientific investigation in the prevention and restriction of epidemic, preventable, and pestilential diseases.

We believe this action should be promptly taken at the coming session of our National Legislature, and that a thorough sanitary organization of the nation should be recognized, and with it absolute enforcement of the best means for the protection of her citizens and the improvement of our inter-State sanitary condition.

The mover of the resolutions stated that inasmuch as they had been published on the postal card announcements every officer and member of the Society, which consisted of 276 members, had (he presumed) become familiar with their reading. He desired that there be an extended discussion, and that every one present their views upon them. The motion to adopt was promptly seconded by Drs. R. E. Starkweather and H. J. Reynolds. They evoked much discussion. Among those who participated were Dr. E. Andrews, Dr. J. A. Robison, Dr. J. H. Etheridge, Dr. W. H. Curtis, Dr. H. A. Johnson, Dr. J. H. Hollister, Dr. G. H. Chapman, Dr. P. M. Woodworth, Dr. C. E. Webster, Dr. John Bartlett, each of whom favored their adoption. Upon call of the question the motion to adopt unanimously prevailed.

The PRESIDENT arose to state that he desired a little time to complete the committee, which he regarded as an important one.

DR. E. ANDREWS moved, duly seconded by Dr. C. E. Webster, "That this Society hereby express its thanks to Dr. Vincent L. Hurlbut for the gift of a very valuable collection of books and pamphlets, consisting of 300 volumes, to the Library Committee of the Society for the Chicago Public Library." The speaker also stated, in behalf of the Library Committee, that there are on the shelves of the City Library 1200 volumes for medical reference. The Library have bound, at their own expense, seventy-five volumes, all of which shows favorably for the short period of a few months since the plan of establishing a medical department in this direction was begun. After various inquiries as to the last donation had been answered, the motion to thank Dr. Hurlbut was heartily and enthusiastically unanimous.

The PRESIDENT announced the following gentlemen to serve on the committee provided for in Dr. Montgomery's resolutions: —

Dr. O. C. DeWolf, Dr. R. E. Starkweather, Dr. L.

H. Montgomery, Dr. John Bartlett, Dr. J. H. Etheridge, Dr. A. R. Jackson, Dr. J. H. Hollister.

DR. H. A. JOHNSON asked to be excused from the committee for the reason that he was the representative from Illinois on the National Board of Health. He extended an invitation, however, for the committee to call upon him at his library at any time when convenient to do so, and he would afford its members all that he could in the direction of his experience. His books also were at their disposal.

The invitation was accepted with thanks.

DR. J. H. ETHEPIDGE moved, duly seconded, that this committee be authorized to present *their* resolutions to the Society for a final consideration, and then to be submitted to Congress, as expressed in the resolutions, which motion carried, and was so ordered.

The Society then adjourned.

Medical and Surgical Journal.

THURSDAY, OCTOBER 9, 1884.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, *Boston. Price, 15 cents a number; $5.00 a year, including postage.*

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Subscriptions received, and single copies always for sale, by the undersigned, to whom remittances by mail should be sent by money-order, draft, or registered letter. HOUGHTON, MIFFLIN AND COMPANY,
No. 4 PARK STREET, BOSTON, MASS.

MEDICAL BEQUESTS.

How a physician in America shall bestow his money so as to give the greatest possible benefit to his fellow men is a question that arises naturally in the mind as one reads in the daily papers the accounts of the testamentary provisions of various good physicians who have left behind them a sufficient amount of this world's goods to make its disposal worthy a newspaper item. Certainly it is proper that special thought should be bestowed upon the subject, and that the matter should not be considered in exactly the same light in which a non-medical man would look upon it. A physician has ordinarily done much to alleviate individual instances of distress; it seems but natural that he should desire to continue his peculiar work after he has personally ceased from his labors, and that can best be done not by giving directly to the poor and suffering but by increasing the efficiency of the race of physicians that follows after him. This he may do by seeing them provided with better means of education, and by that we do not refer simply to the education prior to the reception of the degree of M. D., but also to the education which should follow the doctor to the very end of his career.

Other people are sure sooner or later to furnish hospitals with the funds necessary for their support, looking upon them as a refuge for the sick — let the physician take that higher view of them as congregations of the sick where numerous examples of the same disease allow that disease to be studied for the benefit of all mankind, and see to it that the doctors are provided with those things necessary for the prosecution of their studies. The doctor desirous of perpetuating his good work should also bear in mind that in this free country private liberality must furnish those funds which in some monarchical countries are provided by the government. The funds of medical schools must here be provided by private liberality, and few medical schools in America are well endowed. The individual who assists in the endowment of any of the better class of schools is sure to do an action which will extend its good work for generations, and one which seems specially called for at the present time. There is here an abundant opportunity either to endow special chairs or to increase the general funds of the institution. Provision for the chair of Pathology in the Harvard Medical School has recently been made by the will of the late Professor Ellis, and our medical schools commemorate in the names given to various professorships the liberality of various physicians.

The establishment of medical libraries, or the encouragement of those already existing, is a matter that promises very great good to the profession. One cannot expect such libraries to be founded by other than medical men, or that general libraries shall pay special attention to a medical department, but a medical department for medical men might well be joined to a general library. Of such a library, Worcester, Mass., presents a favorable example.

A library may well be joined to a hospital. It was a most liberal act of the late Dr. Treadwell, of Salem, to establish the library connected with the Massachusetts General Hospital, which bears his name, and one for which his memory is held in grateful remembrance. No other hospital in Boston possesses more than the nucleus of a library.

The Boston Medical Library Association has never yet, we believe, received a legacy of money, though its usefulness might be very greatly increased by an endowment. It has received many valuable legacies in the shape of books, but one can well imagine that it suffers for want of funds.

We hope some time to see salaries attached to certain positions connected with hospitals. The pathologists should not be allowed much longer to do their work without pay. At present the pathologist must regard his labor as a matter of public charity or a stepping-stone to something else that will eventually reward him for his labor. However conscientious he may be in his work he is not properly situated to make it of the greatest benefit to the profession and the community. It is work which is laborious and exacting, and which ought to make a man a return in a more substantial shape than the bubble reputation, but which is not repaid. To be sure that position is often held by the occupant of a chair of pathology in a medical school, when a medical school is at hand, and in such cases it is, undoubtedly, useful to the professor, but hospitals are more numerous than medical schools. It is doubtful if the profession can be more benefited than by the encouragement of the study of pathology, and certainly a vow of poverty ought not

to be a necessity to those who devote themselves to it. That the pathologists themselves make no complaint does not invalidate the general truth of our statement.

The man who endows a hospital with a fund for the payment of a pathologist may not provide for its most obvious and immediate want, but he is doing that which in the end ought to make that hospital contribute to the sum total of human knowledge.

Various positions at the Johns Hopkins Hospital, which have clinical duties attached, are, we believe, to be paid: an example which may lead at some future time to a proper adjustment of the subject.

Our hospitals feel the need of funds for the furnishing of appliances without which the surgeon often feels that his work falls short of the great good he might accomplish. Few hospitals are fortunate enough to possess so elegant and complete an assortment of instruments as the Bigelow collection at the Massachusetts General, and the want of adequate means for furnishing crutches, trusses, and prosthetic apparatus is almost universal.

The lectureships which exist in England might profitably be more widely imitated in this country. They serve at once as incentives to those who aspire to hold them and to those who profit by hearing them.

Fellowships which should allow an occasional student who has given unusual proofs of ability an opportunity to increase his knowledge, by further study at home or abroad, would help to raise the standard of medical knowledge by increasing the number of well-informed individuals. The influence which a single individual possessed of an unusual fund of information may have upon a community can only be appreciated by those who have watched the career of such an individual.

Societies, of which the Massachusetts Medical Benevolent Society is an example, appeal loudly to the sympathies of those who know how few of the profession succeed in providing for their own old age or for the care of those dependent upon them.

What has been said makes it needless to add that we are not soliciting contributions for any medical charity or educational institution, but we have a feeling that medical men, with the self-abnegation which is so prominent a characteristic of the profession, feel it almost selfish to especially remember the needs of their brethren. We believe that contributions to the profession may well be regarded as contributions to the general welfare of mankind. The profession may be regarded not only as a national organization for almsgiving, but also, as we have recently been told in the pages of the Journal, as a popular educator. If one wished to convert a whole nation to certain doctrines what surer means could he find than the sending one or more disciples into every hamlet to be living examples of the principles to be inculcated. How careful would the promoters of such a scheme be to instruct their missionaries before sending them out and afterwards to keep them up to their work by supplying them with the latest information in the shape of books and periodicals, and by providing for regular meetings for consultation and social intercourse.

Such an organization exists already, and we doubt if there is a surer means of benefiting humanity than by strengthening it.

CHOLERA AND RAGS.

In April of this year the Treasury Department at Washington issued a circular forbidding the importation of rags from countries infected with cholera, and especially from Egypt, unless subjected to prescribed methods of disinfection.

In accordance with this circular an inspector was appointed at Cairo, and preparations were made at several ports of entry, — notably at Boston, — at a considerable outlay of money, for the detention and disinfection of cargoes of rags not treated at the point of departure.

August 30th the Treasury Department issued an order to collectors of ports prohibiting for three months all importation of foreign rags under any conditions. We were very skeptical of the wisdom or efficacy of the first circular, and are still more skeptical in regard to this second order.

It is not certain that cholera is never imported by rags, but we have yet to learn of an authenticated instance. Small-pox, as might be anticipated, is sometimes conveyed in this way, but even in regard to small-pox, investigations have shown that the cases caused by rags are much fewer and less frequent than would be anticipated from the character of the contagion in that disease. Dr. Bristowe, as medical officer of the Privy Council, visited eighty-six paper mills in different parts of England before making his report on this question in 1866, in which the conclusion was reached that small-pox and other infectious diseases are very rarely introduced into paper mills by rags. Even were the probability of an importation of cholera by rags much greater than it can fairly be claimed to be, why close this door and leave wide open so many others much more easy of entrance?

It would seem as if, possibly, the predictions of a general European outbreak of cholera have been made without taking sufficiently into consideration the great progress in sanitary science made in Germany and Great Britain since the last great epidemic, nearly twenty years ago, and more especially in the ten years succeeding the less widespread prevalence of cholera in 1873. Moreover, the fact that thus far, a year from the first appearance of cholera in Egypt, and six months after its recognition in Europe, its ravages have been confined to countries in which the conditions and regulations regarding the public health are a quarter of a century behind England and the greater portion of the United States, lends support to the view that the epidemic may be controlled without seriously menacing London and New York.

However, whether we need to take precautions against the introduction of cholera into this country or not, the recent regulations of the Treasury Department at Washington forbidding the importation of rags for three months into any port of the United States we regard as entirely uncalled for, and as

placing serious and unnecessary restrictions upon an important industry, namely, the manufacture of paper.

The rule has, apparently, been made from a fear that some rags may contain the cholera infection in a potentially active state, that these particular rags may come to us, and that if we receive them we may get the cholera with them, in spite of the fact that in the half century that cholera has been a menace to this country and to Europe not a single case can be instanced where it was introduced anywhere through the medium of rags.

We do not at the present time argue for or against the *cholera bacillus*, but we state the simple fact that cholera prevails only under lax local sanitary care, and in conditions of excessive filth. As was said by Sir Joseph Bazalgette, chief engineer of the London sewerage works, "the places formerly most favorable to the spread of the disease became quite free from it when afterwards properly drained."

Speaking for our own State, we do not hesitate to say that there is no reason for forbidding the importation of rags, except, possibly, from yellow-fever ports during the heat of summer.

There certainly is no surer way of bringing sanitary science into disrepute than by unreasonably obstructing commerce, trade, and manufactures.

MEDICAL NOTES.

— M. Beaunis, Professor of Physiology to the Faculty of Medicine at Nancy, records an extraordinary case in the *Gazette Méd. de Paris*, August 2, 1884. The patient was a girl aged twelve and a half years, and was suffering from her fifth attack of chorea. M. Beaunis had been informed by Professor Birnheim of the result of hypnotism in a similar case and decided to have it tried. The result was that as soon as the child was hypnotized all choreic movements ceased, and when asked to write, instead of meaningless scrawls, her writing was steady and legible. The seances were continued for some days and the child was cured completely.

— John P. Hankins, C. S., Brevet Major-General, U. S. A., writes in the *American Grocer* regarding canned foods and the experience of the army therewith, and says he has never known or heard of a case of poisoning by the use of canned goods in the army. As the result of his observations he concludes as follows: "Deductions from the foregoing may be fairly made, that the reports of poisoning by eating canned food are not to be believed, or are only to be believed when it may have occurred by reason of the person having eaten from a can the food in which was evidently spoiled, and so spoiled that the appearance of the can would surely have indicated the unsound condition of its contents to a person exercising ordinary care. If a person buys tainted meat from the butcher and eats it, knowing it to be a little *off*, and is taken sick, he must blame himself for trifling with his health; and likewise, if he buys canned food of suspicious appearance, he must expect to pay in health for his carelessness or temerity. Therefore, having no apprehension as to the method of packing an article, whether in tin or in glass, whether soldered with the aid of an acid or soldered inside or outside the can, there is every reason to consider canned articles as good for food as any food can be. The experience of our army ought to be conclusive on this subject. And no person having a decent knowledge of what is good or bad, sound or unsound, could be misled into eating an improper article from a can any easier than he could be induced to eat a decayed potato or a tainted piece of butcher's meat."

— Dr. Waxham, writing in the *Archives of Pediatrics*, speaks highly of the use of bismuth in rectal injection in cases of dysentery, claiming that it greatly abridges the ordinary course of that disease. From ten to twenty grains of bismuth are administered with mucilage of acacia and water after every evacuation, and if not sufficient in itself to control the frequent stools a little laudanum is added. Recently a child suffering from a severe attack of dysentery, with prolapse of the rectum with every passage, was almost immediately relieved. Within twenty-four hours the character of the passages was entirely changed, the tenesmus and frequent desire to stool relieved, and the prolapse did not recur after the second or third administration. This is only one of many cases where this remedy has been used with gratifying result.

— At the late meeting of the American Association for the Advancement of Science, in the Section on Economic Science and Social Statistics, Dr. Charles Warren, Statistician of the United States Bureau of Education, read a paper on the learned professions and the public, 1870–1880. Deriving the number of persons engaged in law, medicine, and divinity, from the occupation tables of the census, he showed that the rate of increase for each profession during the decade was much greater than the rate of increase in the general population. He commented upon the marked increase in the number of clergymen of foreign birth, and the great increase in lawyers, particularly in States situated north of the Potomac and Ohio rivers. Admitting that the number of clergymen is within the control of the sects purely, and not subject to legal interference, he observed that there is precedent for considering lawyers as officers of the State, and eminent propriety in making physicians also unpaid State officers. When this is done, the qualifications will be under State control, and indirectly the supply can be limited to actual needs. In 1880 he believes there was a surplus of sixty-four thousand in these three professions, and that decisive measures should be taken to remedy it.

— A correspondent of *Science* (October 3d) reënforces the stories of fasting pigs with an account of a hog which, imprisoned by a heap of driftwood after a flood, received no food whatever for forty-two days. Though much emaciated, it was able to drink eagerly of thickened milk, and rapidly recovered.

— An iodoform collodion is well spoken of, consisting of iodoform, ten parts, collodion, ninety parts. To be applied with a camel's-hair brush, the edges of the wound being held together until it dries. For wounds in exposed situations.

Correspondence.

"MILITIA AMBULANCE BEARER COMPANIES."

HEADQUARTERS FIRST BRIGADE,
MASSACHUSETTS VOLUNTEER MILITIA,
BOSTON, *September* 30, 1884.

MR. EDITOR, — I have read the article "Militia Ambulance Bearer Companies" in your issue of 25th inst., and should be pleased to aid in the formation of a corps such as you suggest.

Very respectfully, your obedient servant,
NAT. WALES, *Brigadier-General.*

Miscellany.

DOCTORS TRUMAN AND CROOKS.

EVERY member of the profession in the little city of Oldport — and there were a dozen of them, all eager for patients and for fees — felt sorry when Truman announced his intention of leaving the town to engage in a professorship in a neighboring city. To be sure it made one physician less, for a time at least, but Truman was regarded as an honorable competitor with whom all liked to labor. When Smith the carpenter fell from the new bank building, breaking his leg, Truman was called to attend him, in the absence of the family physician, Jones. For two days Truman rendered every needful attention to the unfortunate carpenter, and might have kept the case; there was nothing in the medical customs or ethics of Oldport that forbade it. He did not do this, however, and as soon as Jones returned home he drove around to his office to deliver over the patient to him; and absolutely refused to take any portion of the fee for his own trouble. This Jones always thought was doing as you would be done by.

Truman was once called in consultation with Dr. Damon, a young and struggling practitioner. He found dissatisfaction expressed which he did everything in his power to allay. The next day Truman was called on by the father of the patient, and urged to take the case. It would prove a lucrative one, and Truman certainly needed the money. The patron was ready and anxious to discharge Damon. Truman refused point blank to take the case, urging the father to continue the present attending physician, who was doing as well as anybody could do; and he so represented the case and Damon's entire competency to manage it that the family concluded to make no change, and they still employ Damon as their family physician.

Truman was never known by look or word to do anything to disparage a brother physician, and never sought to insinuate himself into other physicians' good families. And ever manifesting this excellent disposition to "live and let live," his departure was exceedingly regretted by all the medical fraternity of Oldport, who said that his name expressed his character, and that he was every inch of him a *true man.*

Far different were the feelings when Crooks arrived as his successor, and hung out his shingle in one of the prominent squares of the city. Crooks had brought with him an unsavory reputation from a neighboring town where he had been practicing. He was looked upon by his brother physicians as tricky and untrustworthy. He had a smooth speech and soft and winning manners, and seemed to your face a wondrous good friend, but when your back was turned his words proved poisoned arrows and even his gestures and his looks carried bane. He had but one end in view, to win practice, and to do it where he could by undermining other physicians. He was never known to speak unqualifiedly in praise of a brother practitioner, though he knew well how to "damn with faint praise," and "without sneering" to "teach the rest to sneer." People used to say that Crooks could express more by a look than many men could by a long harangue.

Certain it was that it was not regarded as safe to have a consultation with him, for somehow he always managed to come into possession of the case. There was a seeming agreement when the *confrère* was present, but before Crooks left the house he would manage to slip in a word of disparagement or even a hint that proved damaging to the attending physician; and there was, moreover, an air of superior wisdom about Crooks that impressed the family, and put the regular attendant at discount. He was called in consultation with Jones on a certain occasion. The case was one of simple pneumonia; there was no danger whatever. There was entire agreement as to diagnosis, and no apparent disagreement as to treatment. Jones suggested antimony, and Crooks remarked that antimony might be too depressing; the same end could be obtained by giving ipecac. Jones momentarily left the room for his medicine chest, and Crooks observed to the over-anxious family attendants, "antimony would infallibly kill that child." The two medical men walked home together, and Crooks was sweet, amiable, and condescending as usual. The next morning Jones received a message from the head of the family of his patient that his services were no longer required, as Crooks would take the case. One favorite trick of Crooks was to call on families where he had at some time been summoned in consultation. The consultation proved an excuse for a friendship and an intimacy that was undoubtedly profitable to him. The fraternity did not, however, regard this as fair dealing. In short, the opinion had more than once been expressed in medical circles that Crooks merited his name, and that he was a *bad crook.*

How best to secure one's rights in this life, and yet not infringe on the rights of one's neighbors, is always a difficult problem, but of the two men Truman came the nearest a solution.

DIPHTHERIA SPREAD BY ADULTS.

DR. A. JACOBI, in an article published in the *New York Medical Journal*, September 27th, expresses his opinion that the cause of most cases of diphtheria is to be found not in defective sewerage and damp walls, but in contagion from some individual sick with the disease, and expresses the opinion that many of the sore throats which do not confine their owners within doors or interfere with their business are, in point of fact, diphtheria, and capable of reproducing themselves in other individuals. While a tonsillar diphtheria is attended with scarcely any danger, the same disease in the larynx destroys a child by suffocation, and in the nasal passages is fatal by sepsis. No matter how slight a case is at first it may extend to nose or larynx, and in another person it may generate the most malignant form of the disease. It does not find lodgment in every person exposed to it any more than measles or

scarlatina. While a cannon ball, however, may miss, a pistol bullet may carry destruction.

"Such a bullet," says Dr. Jacobi, "is many a case of the so-called follicular amygdalitis (tonsillitis). There *is* such an affection as deserves the name. It implies a catarrhal or suppurative condition of a tonsillar crypt or several of them. It may be obstinate and extend over years, giving rise to constant returns of the secretion or to concretions. In the acute stage, even in the chronic, it will permit of the introduction of a probe into the duct to a depth of from one to two centimetres. The *color* of the secretion is often that of a membrane, not its nature, nor consistence, nor location (still it may become diphtheritic even inside the duct), and in that condition it is not diphtheria. But the large majority of cases which are commonly called follicular tonsillitis do not belong to this annoying but innocent class; *most of them are diphtheria.* Not everything not fatal need be called by a different name. What to-day looks like a point or four or five points covering the outlets of ducts may to-morrow be a confluent membrane. Just as well you might withhold the name of variola from a case of small-pox so long as it was not confluent or did not destroy life. You have a family sick with affections of the throat and nose; a child is dying of laryngeal croup; another of nasal diphtheria, glandular swelling, and sepsis; others have severe pharyngeal affections; others but slight tonsillar tufts, which may or may not coalesce and extend into membrane. Is the first one 'croup?' are the others 'diphtheria?' is the last one 'follicular amygdalitis?' Or the first case in a family was just such a one as was denominated tonsillar folliculitis by the family physician, and no preventive measures were taken to protect the rest of the little flock. From that moment it was that extermination began in that family. We have all seen it; we ought to heed it all."

Some of the mild cases of diphtheria, according to this writer, are most prolific of danger, because they are apt to assume a chronic course without losing their contagious nature. Instances are referred to where they have continued six or even nine months. While not depreciating the importance of domestic sanitation, Dr. Jacobi lays strong emphasis on the importance of examining the nares and throats of all attendants. He says that a family with children ought to insist upon the occasional inspection of the throats of their help. Servants with chronic pharyngeal catarrh must not be hired. A seamstress, coming for an occasional day's work, ought to have her throat inspected; cooks and nurses must be looked after, the more carefully the less such people are inclined to give way to their pains or ailments or throw up their places. A sick nurse introduced into a family must be examined; she will go from one place to another and carry pharyngeal and puerperal diphtheria. Thus if there be any class of persons who are the constant transmitters of diphtheria, and require attention and caution, it is nurses and cooks, in fact all domestic help; so do sick-nurses, teachers, hair-dressers and barbers, shop-keepers, restaurant-keepers, and all those people who are in constant contact with all classes and ages. The physician enjoys a certain degree of both active and passive immunity, but it depends on the number and duration of his exposures whether he becomes more or less both endangered and dangerous. *There is as much diphtheria out of bed as in bed; nearly as much out of doors as indoors.* Many a mild case is walking the streets for weeks without caring or thinking that some of his victims have been wept over before he was quite well himself.

The main points in the paper are thus condensed:—

"There is, probably, no spontaneous origin of diphtheria any more than there is a spontaneous origin of cholera or scarlatina.

"Diphtheria is contagious. Severe forms may beget severe or mild forms. Mild cases may beget mild or severe cases.

"What has been called follicular tonsillitis is *mostly* diphtheria. It is seldom dangerous to the patient, as the tonsils have but very little lymph communication with the rest of the body. But it is contagious.

"This form is frequent in the adult, in whom it loses nothing, however, of its contagiousness.

"Diphtheria in the adult proves dangerous to the community mostly because it does not restrain the patient from communicating the disease.

"It is apt to last long: firstly, because most cases occur on a surface covered with pavement epithelium (tonsils), secondly, because of the constant exposure and neglect on the part of the patient. Even without it diphtheria may last weeks and more; with it it is subject to sudden relapses. As long as it lasts it is contagious.

"As diphtheria is but a mild affection in many adults, who disregard it, and frequently do not care to mention its existence, pain in swallowing and moderate malaise being the only symptoms, the question of transmission by means of clothing, etc., on the part of third persons is capable of becoming more difficult to answer than it ever was. Many a case which has been believed to be thus carried is, probably, one of direct contagion from a patient to a second person, from this second to a third."

MENTAL ALIENATION IN YOUNG CHILDREN.

AN interesting résumé is given in the *Medical Times and Gazette*, September 6th, of a paper by Prof. Max Leidesdorf, read at the Vienna Medical Society.[1] At the beginning of the present century Carus entirely denied the existence of psychical disturbances in children, and it is only of late years, by means of the works of Brière, Conolly, and Maudsley and their successors, that the subject has been placed in its proper position. The writer himself has for some years past paid much attention to it in consequence of his having so often found that a proper appreciation of certain cases and certain forms of insanity in the adult can only be obtained by investigations carried back into early childhood. But if it is now certain that psychical disturbance may occur even before the fourth year of age, yet its relative frequency cannot well be determined, the statistics of lunatic asylums simply showing that admissions take place only rarely prior to the eighteenth year of age. By the census of Prussia for 1880 it was shown that there were 66,345 insane, or one to 411 adult inhabitants, while there was but one insane child to 1400 children. These statistical returns do not give even an approximative statement of the prevalence of the affection in children; but if we abstract cases of idiocy with or without epilepsy, dependent upon anomalies in the development of the brain, it must be confessed that insanity as it occurs in the adult is rare in childhood. But separate elements

[1] Wiener Medicinische Wochenschrift, June 28th and July 5th.

of such a condition of a rudimentary and transitory nature are frequently met with in the form of shortly lasting attacks of depression or excitement, alarm, and hallucinations. Professor Leidesdorf has often met with, in children not more than five years of age, transitory but frequently recurring conditions of depression, the causes being generally hereditary predisposition, loss of blood (for example, in pertussis), or preceding severe diseases, such as typhus, measles, scarlatina, etc. He refers to the case of a girl five years of age, who, although damaged hereditarily, was, as regards her intellect, in quite a normal and satisfactory condition, and yet was frequently seized on going to bed with attacks of groundless alarm, which lasted an hour or so, but leaving her in a normal condition. Sometimes, too, a hypochondriacal disposition is observed in children four or five years old, and this is especially the case when parents pay an exaggerated attention to their children's health, magnifying every trifling ailment into a serious disease, and managing by their excessive care to transfer their own anxiety to those who are the objects of it. On other occasions it is the witnessing severe illness, or the death of relatives, which saddens the child; and Professor Steiner refers to the case of a boy eight years of age, who, having seen a sister die of phthisis, from that time was the victim of the extremest fear of becoming a similar sacrifice. On the other hand, Professor Leidesdorf has met with examples in boys from six to eight years of age of great or even maniacal excitement with destructive impulse, which, however, lasted only for some hours. In one case the maniacal attack came on at the same hour every evening, but after some months the disposition entirely disappeared. A more frequent form of transitory psychical disturbance is hallucination of a disagreeable or terrifying nature, a typical form of which is well known to children's doctors under the name of *Pavor nocturnus*. Children from three to eight years of age, in a perfectly normal condition, after some hours' sleep are suddenly awakened, a prey to the greatest anguish, with pallid face and fixed look. The entire body is bathed in sweat, they utter loud screams, do not recognize those who surround them, and are the victims of hallucinations, which sometimes take the forms of dogs or serpents threatening them. These attacks sometimes come on at the same hour. At the end of an hour or less they fall asleep again, and on awakening are quite unaware of the occurrences of the night. Another type of transitory psychical disturbance is constituted by natural somnambulism, a condition which presents a great similarity to certain disturbances of consciousness which are sometimes met with prior to, or after, fits of epilepsy. These attacks of somnambulism occur not only at night in the midst of sleep, but also in the daytime. Peter Frank relates a case of this somnambulism brought on in a little girl through the operation of sudden fear, and Professor Leidesdorf gives interesting particulars of another girl, seven or eight years old, who was liable several times a day to hypnotic attacks, during which she exhibited many actions remarkable for the regularity of their execution. At the end of some months these attacks entirely disappeared. Besides these transitory conditions other psychoses may be observed in children five or six years old, which persist with variable intensity during the rest of life. To these belong the *ideas of constraint* (*Zwangsvorstellungen*), which are psychical representations entirely independent of the will, and which those surrounding the child take for simple creations of the fancy. Dr. Leidesdorf's experience in this matter has been gathered in part from children seven or eight years old, and in part from adults, who suffering from these images traced them back to early childhood. These manifestations differ from delirious ideas, as, contrary to what happen with these last, their subjects are quite aware that they have to do with an abnormal condition. The patient tries to repel these ideas, but in the struggle between the will and the ideas it is the latter that is always victorious. Some adults have been tormented by this condition from their earliest childhood, and have found their studies and occupations greatly interfered with; so that this double mental exertion, a part of which consists in withstanding these images, may at last tire them out into alienation. Prolonged mental affection in the proper sense of the word, such as we meet with in the adult, is very rare in children under fourteen years of age, and on account of its rarity Professor Leidesdorf cites some cases from his own and others' practice, for which we have not space. The more grave forms of neuroses are frequently accompanied by psychical disturbances, which last as long as the neuroses themselves. This is observed in epilepsy, chorea, and infantile hysteria. Hysteria, accompanied by psychical disturbance, is met with in children from five to fourteen years of age; and, according to the author's observations, it is the gravest form of hysteria which usually attacks children. Another form of disturbed mental condition observed sometimes in young children is a disposition to simulation, a remarkable case of which is related, and another quoted from West. Professor Leidesdorf terminates his paper by some observations on moral insanity, which, in its rudimentary stages, is not unfrequently met with in children.

ARTIFICIAL PRODUCTION OF LUNG DISEASE BY INHALATION.

WARGUNIN has just published[1] the results of an investigation which he has carried out in the laboratory of Professor Rajewsky, with the view of testing the effects of inhalation of phthisical sputa as compared with other organic matters. The experiments were performed on dogs, which were confined in a wooden box, through a hole in which a spray was directed upon the animal occupying the box. The substances to be inhaled, which were thrown into the box with the vapor, were phthisical expectoration, fresh and disinfected, emphysematous sputum, Swiss cheese, and wheaten flour. Eleven experiments were performed with unaltered phthisical expectoration, each animal undergoing several inhalations (varying from three to twenty-seven), after which it was allowed to live for some months until it died or was killed. Two of the eleven dogs, however, are still alive, being kept for further observations. Careful examination was made of all the organs after death, and in every case pathological products were found in the lungs, which to the naked eye had a close resemblance to tubercular nodules. Three experiments were made with phthisical expectoration disinfected by means of carbolic acid. In only one of these were there any morbid appearances resembling those in the former experiments, but

[1] Archiv für Pathologische Anatomie und Physiologie und für klinische Medicin, 5th June, 1884; and Edinburgh Medical Journal, September, 1884.

the animals were not allowed to live so long, which may account for the difference in result. One dog inhaled the sputum of an emphysematous patient; four were experimented on with a spray of cheese emulsion; and two with a similar spray of wheaten flour. One of these dogs, unfortunately, was bitten by another suffering from rabies at the commencement of the experiment (which was conducted with cheese), and its death was too soon to allow of the progress of any disease reaching a recognizable stage. The other six, however, on post-mortem examination gave evidence of exactly the same pathological processes having taken place as those which followed the inhalation of the phthisical sputum. Wargunin concludes from this that the pulmonary disease resulting from these inhalations cannot be due to a specific poison, but simply to the mechanical and chemical influence of the substances in the spray. He examined every lung microscopically, and found that the morbid products were caused by lobular broncho-pneumonia, not by any tubercular process. The clinical features of the disease which the animals manifested had nothing in common with tuberculosis.

OVERPRESSURE IN SCHOOLS.

THE British press is considerably agitated over a recent report by Dr. Crichton Browne on the above subject, which was accompanied by a memorandum of Mr. Fitch presenting the opposite side of the question from the stand-point of the Education Department. An abstract of each paper is published in the *Medical Times* (September 20th). Dr. Browne alludes to evidence of overwork (1) in detention after school hours, (2) from home lessons, (3) the impression of the teachers, only three per cent. of whom denied the existence of overpressure.

(4.) *The condition of the children* would settle the question of overpressure in itself. In the elementary schools the backward children were the ones who suffered from the effects of overpressure, as one teacher had forcibly observed to him, "Not only do these dull children break down in health under our manipulations, but they grow more stupid, seeming to lose in general intelligence what they gain in mere technical knowledge of reading, writing, and arithmetic." Examinations, he pointed out, were in this direction producing a rich crop in the future of nervousness. Backward children he divided into three classes, the dull, the starved, and the delicate. *Dullness* shaded off gradually into imbecility, a condition which might supervene at any point in the mental evolution. The *starved* constituted a more important section of the backward children. A not inconsiderable number of children were found to have come to school without any breakfast at all, besides a much larger number who were quite insufficiently fed. Then there were the *delicate* children, laboring from a great variety of ailments, but all were expected to get through the same amount of work and make the same progress as those who were healthy.

Overpressure had its origin in great measure in the *examination* system, and this arose from the system of *payment by results*, results proximate and partial, not the real final results, which could not be known under many years. When asked as to the effects of overpressure, the steady increase in insanity might be pointed out as an evidence of high pressure, though at present sufficient time had not yet elapsed to demonstrate its relation to education. The great increase in suicide, too, was instanced as coinciding in time with the modern extension of education, and as being most prevalent in regions where education was most widely diffused. But it was in other diseases of the brain and nervous system that the evils of overpressure were more clearly manifested, hydrocephalus and cephalitis being instanced as diseases which had become relatively more common at the school age during the last twenty years. Diabetes mellitus was specially singled out as an instance of the greater tendency to diseases of the nervous system in modern days.

The next step was to ascertain if any connecting links between these grave disorders of the nervous system and educational overpressure existed, and for this purpose he had inquired into the history of *headache* amongst some of the children. The result of this investigation was that 46.1 per cent. of the children professed to suffer from them habitually. These results were obtained after considerable cross-examination in every case where there seemed any reason to doubt the answer of the child. It was further found that in a considerable majority of cases the headache occurred in the afternoon, but that in the higher standards evening headache predominated, whilst the morning headache occurred, as might have been anticipated, amongst the half-starved. The headache was frontal in a very large proportion of the cases. Next the question of *sleeplessness* was inquired into, a subject beset with many difficulties, as various causes might intervene to produce sleeplessness besides school troubles, but *somnambulism* and *somniloquency* could be more easily proved to exist, and were found to exist in considerable proportion, and to be more or less directly associated with the school work. Of *chorea*, contrary to expectation, he met with no examples, though choreiform movements were occasionally seen.

A brief allusion was made to the relation of *neuralgia* and allied disorders and *shortsightedness* to education.

AN OYSTER MISTAKEN FOR A MALIGNANT GROWTH.

DR. THEOBALD relates the following incident at one of the Baltimore medical societies, according to the *Archives of Ophthalmology*. A patient having suffered from some obscure symptoms sought medical advice for the relief of her sufferings. A suspicious-looking mass was discovered blocking up the posterior nares. This was removed without difficulty, having, apparently, sloughed off from its former attachments. The supposed neoplasm being regarded as probably of a malignant character, it was deemed of the first importance that its histological structure should be made out. A portion of the tissue was teased out and submitted to a microscopical examination. This completed, the growth was exhibited to the Society in question, its histological characteristics were duly set forth, and the clinical facts of the case related. An animated discussion followed, and more than one hypothesis was advanced to account for the unusual features which the case presented. While this was in progress an inquisitive individual, with microscopical proclivities, inspected the tumor with more care than had previously been

thought requisite. The debate was suddenly cut short by the announcement that the suspicious neoplasm was, after all, but a half-digested oyster, a harmless specimen of our should-be familiar bivalve, which, probably, during a previous spell of vomiting, had become lodged at the point where it was discovered.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 27, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	647	283	24.02	10.32	13.09	2.16	3.69
Philadelphia	927,995	330	104	21.30	16.20	6.90	3.00	8.40
Brooklyn	644,526	276	137	33.86	10.88	21.24	5.40	6.12
Chicago	632,100	225	130	29.04	9.68	17.60	2.20	5.72
Boston	423,800	201	96	25.00	13.23	9.80	4.32	4.90
Baltimore	408,520	162	61	28.60	15.60	10.40	3.90	7.15
St. Louis	400,000	154	71	37.70	11.05	13.00	6 49	7.80
Cincinnati	272,400	95	48	21.00	10.50	12.16	2.10	5.25
New Orleans	234,000	100	29	30.00	14.00	9.00	2 00	4.00
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	96	44	23.92	11.44	11.44	3.12	2.08
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	39	17	38 40	10.24	20.48	2.56	5.12
New Haven	62,882	26	8	19.25	3.85	7.70	3.85	3.85
Nashville	54,400	22	9	36.32	13.62	—	—	9.08
Charleston	52,286	35	10	22.88	17.16	11.44	2.86	2.86
Lowell	71,447	35	20	39.04	5.72	37.18	—	—
Worcester	69,442	30	15	43.33	20.00	29.99	—	13.33
Fall River	62,674	22	16	40.86	—	40.86	—	—
Cambridge	60,995	24	12	20.80	24.96	16.54	4.16	—
Lawrence	45,516	19	10	57.86	5.26	36.82	10.52	—
Lynn	44,895	10	2	20.00	10.00	—	—	10.00
Springfield	38,090	12	6	—	16.66	—	—	—
Somerville	31,350	9	6	22.22	22.22	11.11	11.11	—
Holyoke	30,515	—	—	—	—	—	—	—
New Bedford	30,144	17	5	35.28	5.88	29.40	5.88	—
Salem	29,503	12	3	—	16.66	—	—	—
Chelsea	24,347	11	6	27.27	9.09	18.18	9.09	—
Taunton	22,693	13	8	53.83	15.38	23.07	7.69	—
Gloucester	21,400	7	5	42.84	—	42.84	—	—
Haverhill	20,905	13	5	30.76	23.07	15.38	7.69	—
Newton	19,421	10	5	60.00	—	40.00	10.00	—
Brockton	18,323	5	4	40.00	20.00	20.00	—	20 00
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	6	2	16.66	16.66	16.66	—	—
Fitchburg	13,433	7	1	28.56	42.84	14.28	—	—
Eighty-eight Massachusetts towns	190,304	77	23	33.80	10.40	15.60	5.20	3.90

Deaths reported 2747 (no reports from Buffalo, Pittsburg and Milwaukee): under five years of age, 1201; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 782, diarrhœal diseases 403, consumption 364, lung diseases 175, diphtheria and croup 144, typhoid fever 82, malarial fevers 52, whooping-cough 37, scarlet fever 27, cerebro-spinal meningitis 16, puerperal fever eight, measles seven, erysipelas five, small pox one. From *malarial fevers*, New Orleans 13, St. Louis 12, Baltimore nine, New York seven, Brooklyn four, Nashville three, Charleston two, Chicago and Springfield one each. From *whooping-cough*, New York 11, Brooklyn six, Boston five, Chicago and District of Columbia three each, Providence two, Baltimore, Haverhill, and Lexington one each. From *scarlet fever*, St. Louis four, Chicago, Boston, and New York three each, Philadelphia, District of Columbia, Providence, and Lawrence two each, Brooklyn, New Orleans, Lowell, Lynn, Woburn, and Andover one each. From *cerebro-spinal meningitis*, New York five, Philadelphia three, Chicago, Baltimore, New Haven, Taunton, Newton, Fitchburg, West Brookfield, and Westborough one each. From *puerperal fever*, Boston five, Brooklyn two, New Orleans one. From *measles*, New York five, Cincinnati and District of Columbia one each. From *erysipelas* New York two, District of Columbia, Mansfield, and Sterling one each. From *small-pox*, Philadelphia one.

Cases reported in Boston: scarlet fever 30, typhoid fever 40, and diphtheria 16.

In 104 cities and towns of Massachusetts, with an estimated population of 1,179,491 (estimated population of the State 1,955,104), the total death-rate for the week was 23.01 agains 20.64 and 22.09 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending September 13th, the death-rate was 21.4. Deaths reported 3588: infants under one year of age 1179; deaths in London 1373: acute diseases of the respiratory organs (London) 170, diarrhœal diseases 531, whooping-cough 71, scarlet fever 65, measles 46, fever 45, diphtheria 31, small-pox (London nine, Liverpool two, Sheffield and Hull one each) 13. The death-rates ranged from 9.2 in Brighton to 35.4 in Blackburn; Birmingham 16.1; Bradford 19.9; Leeds 26.8; Leicester 31.0; Liverpool 24.8; London 17.8; Manchester 27.5; Nottingham 21.3; Plymouth 15.2; Sheffield 27.4; Sunderland 25.8. In Edinburgh 16.7; Glasgow 24.8; Dublin 29.4.

For the week ending September 13th, in the Swiss towns, there were 21 deaths from diarrhœal diseases, consumption 20, lung diseases 12, typhoid fever four, erysipelas two, puerperal fever one, small-pox one, scarlet fever one, diphtheria and croup one. The death-rates were, at Geneva 8.2; Zurich 13.8; Basle 14.7; Berne 17.8.

For the week ending September 10th, in Paris, there were 202 deaths from consumption, typhoid fever 41, diphtheria and croup 30, measles 26, whooping-cough nine, erysipelas four, puerperal fever three. The death-rate was 22.87.

The meteorological record for the week ending September 27th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Sept., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 21	30.177	56	69	47	68	38	80	62	NW	NW	SW	13	3	8	C	C	C	—	—
Mon., 22	30.024	62	71	50	75	61	90	75	S	SW	SW	9	15	5	C	O	F	—	—
Tues., 23	30.144	52	64	50	75	79	80	78	NE	NE	NW	17	8	3	O	O	O	—	—
Wed., 24	30.145	63	72	50	89	82	92	88	E	S	SW	3	8	12	O	F	C	—	—
Thurs., 25	30.122	70	82	61	83	47	79	70	SW	NW	N	11	16	12	C	O	C	—	—
Fri., 26	30.380	59	68	54	74	58	78	70	N	SE	S	9	9	2	C	C	C	—	—
Sat., 27	30.178	62	71	50	75	39	87	67	Calm.	S	SW	0	11	12	C	C	C	—	—
Mean, the Week.	30.167	60.6	71	51.6				72.8										5.55	0.03

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM SEPTEMBER 20, 1884, TO OCTOBER 3, 1884.

HALL, JNO. D., captain and assistant surgeon. Assigned to duty at Fort Townsend, Wash. Ter., to relieve Surgeon R. S. Vickery. Surgeon Vickery, on being relieved, directed to report to commanding officer, Vancouver Barracks, Wash Ter., for duty. Paragraph 3, S. O. 140, headquarters Department of Columbia, September 15, 1884.

BIRMINGHAM, H. P., first lieutenant and assistant surgeon. Leave of absence extended twenty days. Paragraph 2, S. O. 116, headquarters Division of the Missouri, September 22, 1884.

BARROWS, C. C., first lieutenant and assistant surgeon. Granted one month's leave of absence, with permission to apply to the proper authority for an extension of one month. Paragraph 4, S. O. 86, headquarters Department of Arizona, September 13, 1884.

DIETZ, W. D., first lieutenant and assistant surgeon. Assigned to duty at Fort Selden, N. M. (post surgeon). Paragraph 4, S. O. 187, headquarters Division of Missouri, September 18, 1884.

MCCAW, W. D., first lieutenant and assistant surgeon. Assigned to duty as post surgeon, Fort Craig, N. M. Paragraph 5, S. O. 187, headquarters Division of Missouri, September 18, 1884.

BENTLEY, EDWIN, major and surgeon. Granted two months' leave of absence, with permission to apply for two months' extension, to take effect upon assignment to duty in Department of Texas of Surgeon F. L. Town. S. O. 121, headquarters Division of the Missouri, September 30, 1884.

BARTHOLF, JOHN H., captain and assistant surgeon. Assigned to duty at Fort Ringgold, Texas, as post surgeon. Paragraph 5, S. O. 129, headquarters Department of Texas, September 25, 1884.

WHITE, R. H., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Winfield Scott, Cal., relieving Assistant Surgeon A. S. Polhemus, who, upon being relieved, will report to commanding officer, Alcatraz Island, Cal., for duty. Paragraph 1, S. O. 113, headquarters Department of California, September 19, 1884.

TESSON, L. S., captain and assistant surgeon. Directed to report to commanding officer, Fort Stockton, Texas, for temporary duty. Paragraph 3, S. O. 127, headquarters Department of Texas, September 22, 1884.

GIBSON, R. J., first lieutenant and assistant surgeon. Assigned to duty as post surgeon, Fort Winfield Scott, Cal., relieving Assistant Surgeon A. S. Polhemus.

POLHEMUS, A. S., first lieutenant and assistant surgeon. Upon being relieved to report to commanding officer, Fort McDermit, Nev., for duty as post surgeon.

WHITE, R. H., captain and assistant surgeon. To report to commanding officer, Angel Island, Cal., as post surgeon, relieving Assistant Surgeon C. K. Winne.

WINNE, C. K., captain and assistant surgeon. Upon being relieved to report to commanding officer, Benicia Barracks, Cal., for duty as post surgeon, relieving Surgeon C. C. Byrne. Paragraph 1, S. O. 115, headquarters Department of California, September 23, 1884.

MADDOX, T. J. C., first lieutenant and assistant surgeon. Directed to report to commanding officer, post of San Antonio, Texas, for duty. Paragraph 5, S. O. 127, headquarters Department of Texas, September 22, 1884.

BARROWS, C. C., first lieutenant and assistant surgeon. Leave of absence extended one month. Paragraph 6, S. O. 97, headquarters Division of the Pacific, September 19, 1884.

EVERTS, EDWARD, first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to leave the limits of the Department. S. O. 145, headquarters Department of Colorado, September 24, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING OCTOBER 4, 1884.

STEWART, HENRY, surgeon. Granted leave of absence for one year, with permission to leave the United States. October 15, 1884.

EDGAR, JNO. M., passed assistant surgeon. Detached from the Nantucket and placed on waiting orders. September 29, 1884.

HARMON, G. E. H., passed assistant surgeon. To the Naval Academy. September 30, 1884.

BERTOLETTE, D. N., passed assistant surgeon. From the Naval Academy to the Dolphin. October 4, 1884.

ROGERS, BENJ. F., passed assistant surgeon. To the Naval Academy. September 30, 1884.

COOKE, GEO. H., surgeon. From the Naval Academy and placed on waiting orders. October 2, 1884.

WHITING, ROBERT, passed assistant surgeon. From the Naval Academy and placed on waiting orders. October 4, 1884.

AMERICAN PUBLIC HEALTH ASSOCIATION. 1884. TWELFTH ANNUAL MEETING, SAINT LOUIS, MO. — The American Public Health Association will convene at Saint Louis, Mo., Tuesday, October 14th, at ten o'clock, A. M., and continue four days. The meetings will be held in Liederkranz Hall, corner of 13th Street and Chouteau Ave. Papers have been promised for this meeting as follows: on I. Hygiene of the Habitations of the Poor. II. Hygiene of Occupations. III. School Hygiene. IV. Adulteration of Food. V. Water Pollution. VI. Disposal of Sewage by Irrigation or Chemical Action. VII. The Observable Effect upon the Public Health of Official Sanitary Supervision. VIII. The Work of Municipal and State Boards of Health. IX. On Disease Germs. X. Cremation as a Sanitary Measure in Times of Great Epidemics. XI. A Survey of the Present Sanitary Situation in Saint Louis

The headquarters of the Executive Committee will be at the Southern Hotel. The first meeting of the Committee will be held Monday, October 13th, at 2.30 P. M.

The conference of State Boards of Health will meet at Liederkranz Hall, Monday, October 13th, at 2.30 P. M.

After October 5th all communications to the Secretary should be sent to Southern Hotel, Saint Louis, Mo.

IRVING A. WATSON, *Secretary.*

Original Articles.

EXCEPTIONAL FATTY TUMORS.[1]

BY R. M. HODGES, M. D.

If an attempt were made to enumerate the mistakes of surgery the list would be a long one, especially if surgeons manifested as much alacrity to report their failures as they do to give an account of their successes. Such a catalogue of discomfitures, however exhaustive, would not prevent errors from happening, but it might exhibit the difficulties of surgical art and inculcate that prudent reserve in the expression of opinions, want of which is a fault often condemned, and the possession of which is a virtue greatly respected by the profession, if not by the public. It might also help to repress a prevalent intellectual propensity which permits preconceived opinions to subvert deliberation of judgment.

I propose to report, in brief terms, four cases of erroneous diagnosis which have left an impression on my mind, not on account of their seriousness, as in each instance the mistake was to the patient's advantage, but because they are striking illustrations of misconception, all of them having reference to an affection usually counted one of the simplest and easiest for surgical recognition.

Case I. A. M. C., female, aged five, well developed, and, except for some slight cerebral symptoms while teething, always perfectly healthy, is the subject of a tumor of the occiput, in the median line, over the tendons of the trapezii muscles. It was first noticed at the age of three months, and has gradually increased in size; ovoid in shape, two by three inches in its diameters, regular in outline, the superior border nearly reaches the occipital ridge and protuberance. The integument is natural and slides upon the growth, which is itself apparently movable upon the muscles beneath. It has the feel of a soft solid, and is translucent when examined through a hydrocele tube. It does not pulsate with the breathing or crying, nor has the patient suffered inconvenience from the tumor, or any apparent pain when it has been handled or bumped.

More than a year before my interview the mother was advised at the Massachusetts General Hospital that an operation had better not be performed. Subsequently she again received similar advice, with the added recommendation that a shield of gutta-percha should be worn; the opinion of those who saw it being that the tumor was a meningocele, having more or less direct communication with the serous membranes of the encephalon and spinal cord. Eventually, and with a full understanding of the danger, the parents decided that they would prefer to have an operation performed and take the chances of the child's death at present rather than suffer the tumor to remain.

After etherization a fine trocar was inserted into the tumor. No fluid came through the canula, not even blood. After consultation by the surgeons present it was thought advisable to determine the character of the growth by an incision. This being done a very beautiful specimen of fatty tumor was exposed and easily removed.[2]

This particular fatty tumor happened to present features which, as a rule, do not belong to that class of growths. A lipoma, congenital, situated in the median line of an exceptional locality, and translucent, offers an assemblage of phenomena which might justify the blunder of taking it for a meningocele, properly belonging in the point described, which is of necessity congenital, and offers nothing irregular in being translucent; but the sequel proved that not enough importance was attached to the absence of fluctuation, of pulsation, or to the movableness of the tumor. I am not aware that fatty tumors are often translucent, but the delicacy of color and fineness of texture which they frequently present (as in the case under consideration), coupled with the fact of their oil-cells being much larger than those of ordinary fat, suggest that the transmission of light through their structure may not be a rare phenomenon.

Case II. S. N., a thin and anæmic man, of indifferent health, aged fifty-eight, is the subject of a smooth and rounded tumor in the median line of the neck, between the hyoid bone and thyroid cartilage. It had slowly enlarged during the four or five years it had been observed, until it reached the size of a small egg, and became annoying from its prominence. Painless, not adherent to the skin, fixed to the deep tissues, and fluctuating, it was unhesitatingly diagnosticated as a cystic tumor by more than one surgeon, and its removal recommended. By medical advice the tumor was unavailingly painted with tincture of iodine for a period of several months. Discouraged by the failure of this application, Mr. N. consented to an operation. As the growth was fixed and not small, it seemed that the dissection which would be required might present some difficulty, or at least open the way for subsequent burrowing of pus. The operation was consequently performed with careful antiseptic precautions; but the tumor was found to be an ordinary lipoma, easily removed. Rapid healing and an insignificant cicatrix followed.

Fatty tumors are always surrounded by a capsule of connective tissue which in its totality constitutes a more or less complete cystic envelope. The defined outline thus given to the one in question and its fluctuation contributed to the deception by which the diagnosis was entrapped. Its locality, moreover, is one particularly affected by cystic growths, and unusual for lipomata. Although fatty tumors may be found in any part of the body, in the bones, viscera, and beneath muscles, they are rare in certain places, and generally occur only in superficial positions abundantly provided with fat.

Case III. H. R. S., aged twenty-three, has a somewhat flattened, round, subcutaneous tumor over the horizontal ramus of the jaw, alleged to be of but a few months' duration. It is about one inch in diameter, defined in outline, slightly movable, not tender, fluctuating. The skin is little, if at all, adherent to the tumor. In short, the appearances presented are those of an indolent abscess. On looking for an explanation it was found that the lower canine tooth of that side was dead and contained a large gold filling; but it was not, nor had been recently, tender or inflamed. To avoid a scar, and in the hope of emptying the abscess internally, I advised extraction of the tooth, even though subsequently an external incision should be required for drainage of the purulent cavity, believing if it were allowed to remain that a fistulous opening and disfiguring adhesions would be sure to follow. The

[1] Read before the Surgical Section of the Suffolk District Medical Society, June 17, 1884.

[2] M. G. H. Records, vol. lxxvi., p. 206.

tooth was pulled, and some time after the patient returned with the tumor unchanged. An incision, which was then made, proved the supposed abscess to be a fatty tumor, easily squeezed out from its bed through a small opening in the skin.

Blinded by the exceptional situation and the patient's statement of its duration, which in all probability had been for years rather than months, the mistake was made of attributing this tumor to an irritation which did not exist. Hasty generalization from a first and strong impression led to an erroneous diagnosis, which closer attention might have averted. The case is also an instance, not infrequent, of the fact that a well-developed tumor may pass unnoticed by its possessor for a period of time hardly conceivable.

Fluctuation is a phenomenon often believed to be present because the surgeon thinks it should be. The impression is in the brain and not at the fingers' tips. Many an old-fashioned surgeon, in the eyes of his students "great on deep-seated fluctuation," owed this reputation to his experience rather than to his *tactus eruditus*. Genuine fluctuation is, however, an acknowledged attribute of many fatty tumors, and is due to the presence of large numbers of oil-globules and a small amount of connective tissue. At the Academie de Médecine Lisfranc once placed on the table a number of tumors covered by their integuments, and submitted them to examination. The surgeons present all agreed that there was fluctuation, and yet the tumors were in each instance fatty.[1] Therefore, neither in the case just read nor in the preceding was the existence of fluctuation any justification of the errors which were made.

CASE IV. C. H., aged sixty-four, an educated man, of exceptional capacity, in perfect general health, two weeks before being seen fell on the ice, severely hurting himself about the hip. A week afterwards he first noticed a painless tumor about four inches in diameter, filling the space of Scarpa's triangle, defined, lobulated on the surface, and at its periphery slightly, if at all, movable, firm, and non-fluctuating in substance. The integument was adherent and traversed by conspicuous veins. There were no enlarged glands in its vicinity, or above Poupart's ligament. Although the patient had noticed this tumor but for one week, and only two weeks had elapsed since his fall, it plainly was not of an inflammatory character, and, from the appearances presented, it was equally obvious that the growth must have been of longer duration than supposed, and bore no relation to the accident which had befallen him.

Notwithstanding the absence of local or previous symptoms, and the patient's conviction that there had been no swelling in the region before his fall, the serious character of the growth could not be doubted. I expressed the opinion that it was a sarcoma, and gave a discouraging answer to inquiries in regard to the expediency of an operation for its removal.

During the succeeding twelve months the tumor underwent little or no change, and was examined by several surgeons, all of whom coincided in the diagnosis which had been given. C. H. finally entered the Massachusetts General Hospital, and, after much deliberation, an attempt to remove the tumor was decided upon. This was undertaken with every precaution to insure the success of what promised to be a long and dangerous operation. On exposing the growth it proved to be a lipoma, traversed by numerous fibrous bands, and closely adherent to all contiguous parts. It was evidently an old inhabitant of the situation it occupied, and a still more curious illustration than the preceding one of the fact that a tumor will long remain undetected by its possessor, even when in a palpable location.

In this case the patient's self-deception contributed to the error of diagnosis, but the tumor, from intrinsic evidence, was so clearly of long standing that his statements to the contrary should have had no influence. Its actual age had led to changes which effaced some of the usual features of a lipoma, and its situation, as in the cases of supposed meningocele and thyro-hyoid cyst previously related, was deceptive, in that it is usually the habitat of a graver class of growths. The alleged association with an injury is one commonly made or sought for in all cases of tumors, but the great source of error was an assumed rapid development, and, in the absence of inflammatory phenomena, this could be occasioned only by a malignant growth. I doubt if, under the circumstances, it was possible to have formed a correct conception of the nature of this tumor. Any one diagnosticating a lipoma would have made but a lucky guess.

I will briefly describe five other fatty tumors of which I have a few memoranda, and which were not diagnosticated before operation, their character remaining in doubt until after removal, owing to the situation in which they were developed.

A seaman, aged twenty-three, seven years before admission to the Massachusetts General Hospital, first noticed a tumor, the size of a pea, in the middle of his right palm. This grew slowly until it was one and a half inches in diameter, ovoid in shape, soft, fluctuating, painless, immovable, apparently subcutaneous, not interfering with the motion of the fingers, and only troubling him in his occupation as a fisherman by the pressure of his fish-line. An incision being made, the growth was easily enucleated by the fingers, and found to be a fatty tumor composed of many compressed lobules. No arteries were tied.

A laborer, aged forty, presented himself at the Massachusetts General Hospital with a small tumor between the index finger and thumb, which, when first detected, two years previously, he attributed to the pressure of a wood-saw. At first painless, it subsequently became painful on pressure, or when the hand hung down, the pain streaming up the arm as if a nerve were involved. The tumor was most prominent on the dorsum of the hand, and at the time of operation was as large as an egg, ill-defined, partly concealed under the palmar fascia, soft, fluctuating. The integument covering it was natural in color, and in no way involved. Its removal, requiring an incision four inches long, was accomplished chiefly by the fingers. The first dorsal inter-osseous muscle was divided to give access to the tumor, which was an ordinary lipoma. No vessels were tied.

From a position similar to that in the preceding case, between the index finger and thumb of a man aged seventy-three, a fatty tumor, the size of a potato, and of thirty-five years' growth, was removed, or rather torn out, at the Massachusetts General Hospital, through an incision in the palm. One artery required a ligature.

A female, aged fifty-five, twenty-two years before operation, observed a tumor as large as a pea on the right side of her forehead, within the hair. During

[1] Compend. de Chir., vol. i., p. 605.

the last six years it had grown to the size of an apple. It was immovable, and not sensitive or uncomfortable, except from its position and dimensions. Its removal was easy, and unattended by bleeding. It proved to be an ordinary fatty tumor.

A man, aged fifty-six, twelve years before admission to the Massachusetts General Hospital, discovered a "bunch" in the lower part of his right scrotum, hard, unconnected with the testicle. Seven years afterwards there appeared a second "bunch," larger than the first, and situated above it. Both were movable, and not tender. Within fifteen months these had grown rapidly, until the scrotum reached the dimensions of an infant's head. The enlargement was confined wholly to the right side, and appeared to be made up of several distinct tumors; one, at the lower part, being equal to an orange in size, while another, above it, was still larger, but flattened in shape. They were just beneath the integuments, and the interval between them fluctuated, as if occupied by a fluid. Both testicles and cords were natural. A small hernia existed on the side of the tumors, for which the patient wore a truss. An operation removed a multilobular fatty tumor. One or two veins were tied, but no arteries. The recovery was interfered with by a secondary hæmorrhage, however, of considerable amount.

In this latter group of cases the record of apparent fluctuation, noted at the time of examination, presents itself again as a conspicuous peculiarity of fatty tumors, and justifies the comments already made.

Another feature, which may be remarked upon, is the statement, three times repeated, that the tumor was torn out, or enucleated, by the fingers; a procedure not unsurgical or exceptional, but which illustrates the loosely encapsuled character of these growths, and, while familiar as a method often adopted in their usually rapid removal, it is one not commonly alluded to by surgical authors.

The infrequency with which vessels call for ligature after the removal of lipomata prompts me to speak of the exudation of serum which usually takes place, to a large amount, in the space vacated by the tumor. This formerly occasioned trouble by distending the cavity, decomposing, and finally becoming purulent, and, at the expiration of a few days, obliging an opening to be made in the line of an incision which has usually united by first intention. Such a sequel of the operation is now happily prevented by aseptic dressings and the invariable practice of inserting a drainage tube in the wound.

ANTISEPTIC HERNIOTOMY WITH SUTURE OF THE PERITONEUM.[1]

BY A. T. CABOT, M. D.

THE dangers of herniotomy have been greatly reduced, no doubt, by the introduction of modern antiseptic methods, but the correct appreciation of the properties of the peritoneum learned in abdominal surgery has done, perhaps, even more to limit the death-rate of this operation.

Formerly the surgeon, in closing the wound after the reduction of a strangulated loop of intestine, brought the edges of the skin neatly together, and drained the cavity of the sac more or less perfectly with a seton or tube. If a wound treated in this manner suppurated the pus found easy access to the abdominal cavity, and fatal peritonitis was the frequent result, a result vastly more common at that time in umbilical than in inguinal hernia, as in the former the pus, naturally, gravitated directly into the abdomen, while in the latter it had to find its way up the inguinal canal, the walls of which, being held in apposition by a compressing pad, often closed by adhesive inflammation before suppuration commenced.

We now know that if the peritoneal surfaces at the ring are brought snugly together with deep stitches they quickly cohere and shut the wound off completely from the cavity of the abdomen. This cohesion of the peritoneum is very firm at the end of twelve hours, as has been frequently confirmed by autopsy after ovariotomy, and as suppuration does not commence inside of twelve hours the peritoneum is completely closed before any collection of pus and penetration of it into the abdomen can occur. After the peritoneum has thus united the outer wound may gape open, may suppurate, may even take on an unhealthy, sloughy character without implicating the abdominal cavity. Another advantage to be gained by the careful approximation of the peritoneal surfaces about the hernial ring is the very great probability of obtaining a radical cure by so doing. In order to place the stitches as advantageously as possible with this end in view the operator should draw down the hernial sac as far as possible, and place his stitches well within the ring, as in this way he brings the peritoneal side of the wound smoothly together, and avoids leaving a pocket in which a new hernial protrusion may commence. This remark applies especially to inguinal hernia, and the following case will serve as an illustration of this method of treatment:—

James H., thirty-eight years of age, entered the Massachusetts General Hospital July 9, 1882, with the following history:—

The patient has had a right inguinal hernia for many years, and has worn a truss for it, but although the truss is a good one the hernia often escapes from it. Five or six hours before entrance to the hospital he was seized with sudden pain while riding in his cart, and found that an unusually large protrusion had taken place. A physician whom he called upon tried taxis for two hours without effect.

The hernia at the time of entrance was about the size of a large fist, very hard, red, and tender. I saw the patient soon after his arrival in the hospital, and after trying taxis moderately under ether I proceeded to operation.

The sac contained about a foot and a half of deeply congested intestine. After incising the constricting portion of the ring there was still great difficulty in reducing the prolapsed intestine. This was finally accomplished by raising the pelvis and tucking it slowly in, beginning with the portion that came out last. The pillars of the ring were tightly sewn together with chromicized catgut, and the outer part of the wound brought together with silk.

The recovery after this operation was uninterrupted.

I have seen this man within the past six weeks (twenty months after the operation), and the hernia has never been down since. He still wears a truss as a precaution, but the impulse upon cough over the

[1] Read before the Surgical Section of the Suffolk District Medical Society, March 7, 1884.

ring on the affected side is little, if at all, more marked than on the well side.

In femoral hernia the proximity of the great vessels renders the placing of deep stitches a matter of considerable danger, while in umbilical hernia the stitches are readily placed through the peritoneum on each side of the opening, just as in an ovariotomy wound.

A large redundant sac often interferes seriously with a nice approximation of the wound, and should be freely cut away. This is especially important in umbilical hernia, as in this form the sac is composed largely of the cicatricial tissue of the expanded umbilical scar, which heals badly, and which if left would form a considerable cavity very liable to suppurate. If, on the other hand, the sac be carefully trimmed off the sides of the umbilical ring and of the opening through the skin can be brought together as one linear wound, which heals readily.

There are few procedures concerning which surgical opinion has changed so entirely in the past twenty years as it has in regard to the operation of kelotomy for strangulated umbilical hernia.

No longer ago than 1861 Huguier stated his opinion before the Société de Chirurgie of Paris that "in strangulated umbilical hernia, whether intestinal or omento-intestinal, it is, perhaps, better to abandon the hernia to the efforts of nature, watching and combating complications, than to attempt a regular operation of kelotomy." This opinion he sustained by statistics, and in spite of opposition by Richet and other contemporaneous surgeons the ideas of Huguier prevailed.

In 1865 Gosselin urged that the operation was by no means as grave a one as was currently supposed, and that if it was done within forty-eight hours after strangulation occurred the prognosis was no worse than in other hernias, but this view did not become a general one.

In 1875 Desprès reported a successful case after operation, and Verneuil spoke in favor of non-interference, while Perrin and Le Dentu supported the operation.

In 1881 Terrier again brought the matter under discussion in the Société de Chirurgie, reporting three cases of operation with two recoveries. Polaillon also reported three cases with two recoveries. And Verneuil admitted that in view of the advance in surgical treatment he could no longer sustain the opinion he had held in 1875, but must regard the operation as justified in these cases, with the reservation that it should only be used in small hernias, which opinion was supported by Desprès, while the other surgeons taking part in the discussion inclined to the belief that even large hernias should be operated upon if the symptoms were menacing.

This rapid change of practice among French surgeons serves as an illustration of the reversal of opinion that was taking place throughout the surgical world.

Among the Germans, in 1869 Uhde published a series of 122 cases, which underwent operation with a mortality of 46.7 per cent. And in 1879 Geissel considered that Huguier's advice to let these cases alone should be disregarded.

The English journals begin after 1875 to contain not infrequent reports of successful operations, and in 1883 Lawson Tait states that he has operated upon eleven cases, all of which recovered, and that he does not remember a case of death after the operation in his hands.

My own experience with strangulated umbilical hernia has included three cases. The first I saw some years ago in consultation with Dr. W. Symington Brown, of Stoneham. The patient was a large, stout woman. The protrusion was as large, I should say, as an infant's head. The integument covering it was red and shining in places, and the sac was evidently much inflamed, with the contained intestine, probably, held by many adhesions. Abdominal pain and vomiting were present, either from strangulation or peritonitis. Aspiration was resorted to with the hope of relieving tension, but without success. Expectant treatment was followed, and the patient died.

The second case, a hospital patient, was seen after peritonitis had set in. The protrusion was a small one, about half the size of the fist, and was very tense and painful. Poultices were applied, and the expectant method of Huguier was followed, but the patient died. There was no autopsy. This patient also was a middle-aged, fat, and flabby woman.

The third case I will report more at length: Mary C., a fat woman, forty-seven years of age, entered the Massachusetts General Hospital January 13, 1884, with the following history: She has had a protrusion at the umbilicus for the past nine years, and this, although reducible, has been down most of the time. On January 10th (three days ago) the hernia became very tense, and she suffered somewhat from pain. The morning of the 13th she began to vomit and to have intense pain through the abdomen. I saw her at about eight P. M. in the accident room of the hospital. The patient was cool and perspiring, but had a fair pulse. The protrusion situated at the umbilicus was about the size of an orange, tense, red, and glossy, and very tender when touched. I was fortunate in obtaining the counsel of Dr. Bigelow and Dr. Hodges, who advised an exploratory incision with the intention of returning the intestine if of good color, but if it were gangrenous of leaving it without interfering with the strangulating ring.

I operated by an incision over the lower part of the sac and the adjoining skin. No distinct layers could be made out in the wall of the sac. The interior was quickly reached, and the contents were found to be a coil of the intestine nine or ten inches in length, and a considerable mass of omentum, which was adherent to the inside of the sac. The ring was incised at its lower edge in the linea alba, and the intestine, which was much congested, but not gangrenous, was easily returned.

The omentum was so extensively attached to the sac that it could not be easily separated; it was therefore tied and cut off with the Paquelin cautery. The sac was then cut away and the wound brought together with silk sutures, which included the peritoneum.

The operation was done under carbolic spray with all antiseptic precautions, and a gauze dressing covered with cotton batting, and held in place with a swathe, was applied. The patient bore the operation well. On the following day she had considerable pain in the right side of the abdomen on a level with the umbilicus, for which she took morphine in moderate doses. She passed wind from the bowels on the third day after the operation, and on the fifth day her bowels moved naturally. She was now free from pain and seemed well in every respect. The wound was dressed for the first time nine days after the operation, and was found to have united by first intention. It gave no subsequent

trouble, remaining firmly healed with apparently entire obliteration of the ring. On the ninth day she took a little solid food for the first time, having been kept upon liquid nourishment until then. This change in diet was followed by considerable pain in the abdomen, referred to the neighborhood of the umbilicus, and colicky in character. A little hardness and fullness was to be felt just to the right of and above the umbilicus. This region was tender to pressure. The bowels being rather constipated several small doses of castor oil were given, with the effect of producing a free, easy movement and relieving the pain.

Several times during her subsequent stay in the hospital the same course of events was noticed, namely, that when the bowels were constipated she suffered from cramps with occasional vomiting, which symptoms were relieved by a mild cathartic.

It seemed from these symptoms that the bowels were somewhat obstructed, probably owing to adhesions contracted by the loop of intestine that had been returned while somewhat inflamed, and had set up a local peritonitis in its neighborhood. The seat of this mischief was thought to be in the colon, to the right of the umbilicus, where the slight hardness and tenderness existed.

Under the use of poultices and laxatives these unpleasant symptoms disappeared, the tenderness and hardness vanished, and she was able to be up and to partake of ordinary food. Finally towards the middle of March she was walking about nearly all day without discomfort, and being anxious to get home to South Boston permission was given her to go home in a carriage.

She wished to leave March 17th. Upon that day, before the arrival of the carriage, the idea occurred to her to surprise her sister who lived at a considerable distance. With this intention she left the hospital on foot. I have since learned that contrary to all advice she walked more than a mile, and after great fatigue reached home in a very poor plight, and died about a fortnight or three weeks later. From Dr. P. F. Gavin, of South Boston, who was called to see her after she reached her friends, and who attended her until her death, I learn that the symptoms when he saw her were pain and tenderness about the umbilicus, tympanites, and vomiting. The bowels were constipated, but moved slightly after enemata. These symptoms increased in severity up to the time of her death. The treatment was with opiates and without laxatives. No autopsy was obtained. The death of this patient, though probably an indirect consequence of the strangulation, cannot be set down to the operation, which was thoroughly successful, and restored her to a state of health which nothing but folly as great as her own could have destroyed.

The wound left by an operation done in this manner for umbilical hernia differs in no essential particular from the simple incised wound of an ovariotomy, which almost invariably heals readily. If, therefore, inflammation has not already begun in or around the sac, it seems reasonable to expect a very fair measure of success from antiseptic umbilical herniotomy, and the experience of modern operations shows that even when inflammation is present a carefully aseptic operation will give the patient many more than even chances of recovery.

As inflammation when started introduces the greatest element of danger in these cases, it certainly seems well to adopt the rule given by Gosselin, that the operation should be done as soon as possible after strangulation has occurred.

FUNCTIONAL AFFECTIONS OF JOINTS.

BY E. H. BRADFORD, M. D.

IN contrast to cases with definite organic changes and the resulting impairment of usefulness, a class of joint affections presenting impairment of function without evidence of organic change is of interest.

The term "hysterical" is commonly used to describe this class, a term which, meaning nothing, frequently misleads, implying as it does a group of concomitant symptoms not always present. The compound word "neuro-mimesis" has also been employed, but suggests feigning, which is frequently not the case. "Functional," used in this way, signifies simply what is known to exist, namely, an impairment of the usefulness of the member without any hypothesis as yet problematical as to the cause of the disorders.

A few cases will serve as illustrations.

CASE I. A well-nourished girl, seven years of age, entered the Children's Hospital for a right-angled contraction at the left hip-joint, which was said to have persisted for over a year, and to have followed what had been termed trouble at the hip. The child was, apparently, of a nervous, excitable disposition, but complained of no pain. The contraction at the hip-joint was persistent, and the limb was not seen to assume at any time a normal position. The patient walked about with crutches. The distortion was so marked and characteristic that I, on a casual examination, considered it an ordinary case of the contraction following hip disease. Dr. Langmaid, however, under whose care the case fell, recognized the nature of the affection, etherized the patient, and easily, under the anæsthesia, restored the limb to its normal position, and fixed the leg in a plaster-of-Paris bandage. The patient fell under my care, and it was found that, on removal of the bandage, the leg resumed its vicious position. A lighter stiff bandage was applied and worn for a month, but the result was the same. On removing this a light steel support was then applied, fastened to the shoe, reaching from the heel to the upper part of the thigh, and by a strap, which passed over the knee, prevented flexion at the knee and contraction at the hip. The child walked about readily with this without crutches, and at night wore a ham splint. Demonstrating the effect of mental influence in causing the distortion, it was found that while the splint was worn no contraction took place even when the strap (which alone prevented the contraction) was taken away; if, however, the splint itself were taken off the limb recontraction instantly occurred. At the end of two months the patient left the hospital, but was brought back as an out-patient. At the end of six months, however, she was reported to have developed a similar distortion in one of her other limbs.[1]

CASE II. A girl of healthy appearance, well nourished, nine years of age, fell, striking upon her knee. She was placed in bed, and kept in bed for two months, the family dreading hip disease, an acquaintance having

[1] For a somewhat analogous case vide Jahrbuch. f. Kinderheilkunde, Band xv., 1 Heft. See also Riegel, Zeitschr. f. klin. Med., 1883, Band vi., Heft 5.

suffered from hip disease, a result of a slight fall. When the girl was allowed to walk about she complained of pain in her right hip, and limped when walking. This persisted for a month. In the meanwhile the child was allowed to go about but little.

On examination absolute freedom of motion was found at the hip-joint as compared with the normal side; no atrophy was present, and it was inferred that no disease of the joint existed. The patient was furnished with crutches, the shoe of the well side raised, and the patient allowed to walk about upon crutches, but directed to bear no weight upon the affected limb. The mother was directed to rub the limb well twice a day. In a short time, as no further evidence of joint trouble manifested itself, although the child continued to complain of slight pain in walking, the lift on the shoe was removed, and the child directed to walk without crutches, at first only a short time in the house, the length of time being gradually increased, and finally crutches were removed altogether. No trouble has followed up to the present time, thirteen months.

Case III. S., a school-mistress, twenty-six years of age, with a history of a severe attack of "spinal irritation" two years before, presented herself with the statement that she was suffering from "hip trouble." Her hip had felt "weak" for three months, and the patient thought she had strained it three weeks before, but had sustained no fall. The patient limped badly in walking, held the limb flexed at the thigh, did not put heel to the ground in walking, complained of pain in the hip and knee, chiefly at the hip. In a recumbent position the left thigh was held flexed, and on any motion or jar the patient complained of pain in hip and knee, also of great tenderness about the groin and hip. No atrophy of the thigh was present. The patient slept well, and was free from morning stiffness. Hip disease was excluded from the absence of atrophy, the extreme tenderness coupled with an ability to walk about with comparative freedom (although with a limp); further, the limp did not resemble the usual limp seen in hip disease, and although on passive motion of the hip extreme pain was complained of the patient moved the limb rather more freely than is usual in cases of hip disease in a stage of extreme tenderness. The patient was evidently of a nervous temperament, and had worked constantly in charge of a large public school, allowing herself but little or no rest.

The treatment consisted of absolute recumbency for a short period, followed by gradually increased motion. But little or no improvement in the patient's condition followed for a few weeks. At the end of six or eight weeks she was allowed to get up, and improved noticeably. The patient left home for a few weeks' stay at St. Margaret's Home, where the treatment consisted in giving a required task of motion, increasing each day, and a routine of occupation. In a fortnight the patient became able to walk about freely with crutch or cane, and without complaint of pain to go up and down stairs, and in two months was able to walk quite long distances. She has since resumed her position as school-teacher, and during the past year she has reported that she has been free from any pain or limp, and is able to be about as freely as any one, except that she occasionally has slight pain in the hip if overtired.

Case IV. Woman, thirty years of age, presented herself with the symptoms of commencing hip disease. The characteristic flexion, limping in gait, stiffness at the hip were present, and there was a complaint of pain at the hip and knee, which was aggravated on moving the hip. The patient stated that she had pain at night in the limb, and that the symptoms had persisted for eight months. A diagnosis of functional rather than organic trouble at the joint was made on a second examination (though beginning hip disease was suspected at the first), based on the fact that the limb was moved by the patient herself much more freely than would be consistent with any active inflammation at the hip-joint, that no muscular atrophy of the thigh was present although the affection had persisted for eight months, and that although there was stiffness in the direction of flexion and extension of the right thigh, as compared with the left the stiffness in abducting the limb was not marked. Confirmatory of this opinion was the fact that the patient had been for some time under the observation of Dr. C. F. Folsom for what was manifestly hysterical stiffness of the right arm, the symptoms of which had disappeared as those of the hip became prominent. The patient entered a hospital, and the report of the attending physician as to the subsequent course of the case tends to confirm the diagnosis.

Case V. S., girl, twenty years of age, a domestic, complained of some pain and tenderness on the outer side of the right knee. The pain was located, not in the joint proper, but to the outer side, and was not severe enough to keep the patient awake during the night, but was constant whenever weight was thrown upon the limb. The patient had evidently been overworked, and was in rather a nervous condition, though no evident exaggeration of symptoms was noticed. Her appetite and digestion and general nutrition were good. There was no swelling at the knee, and no stiffness or limitation to motion.

The patient was taken from her work, put in the Samaritan Hospital for a few months, sent out to the country for a month, and returned somewhat improved in general symptoms, but still complaining of pain at times in her knee. She was allowed to resume her work as a domestic, taking lighter work, and her pain gradually disappeared. On resuming harder work she began to complain again at times of pain at the knee.

Case VI. B., a young lady, thirty years of age, a school-teacher, of healthy appearance, was referred to me through the kindness of Dr. Wing. Three years before the patient was suddenly seized with a spasm of the left lower limb, causing it to be drawn up on to the abdomen, and flexed strongly at the knee. There was intense pain at the time in the thigh, knee, and hip, and the limb could not be drawn into a normal position. This condition remained unchanged for three weeks, when some improvement was noticed. Her regular medical attendant discovered a uterine displacement, and applied a pessary, which relieved her almost immediately, so that she could move her limb freely without stiffness. If, however, the uterine supporter was removed or not properly fitted she was liable to frequent attacks of spasm in the limb and pain in the knee. She has been obliged to travel about, and has been in the hands of several physicians, and has worn various pessaries, and she finds that if the uterus is well supported no "cramps" of the leg take place. If not she is liable to frequent attacks of tonic or clonic spasm at the knee. Pain in her knee is worse just before her menstrual attack. The patient was found to walk without any limp, and could stand on the

affected limb; could flex to a right angle, but not beyond; could extend fully, though the motion was slow and accompanied by some muscular tremor. Marked superficial tenderness was observable over the knee, but there was no swelling and no muscular atrophy of the muscles of the thigh. The tenderness was not localized. The condition of the limb had remained about the same for two years, and was not found changed on a subsequent examination several months later. The patient did not come under treatment.

Case VII. Mrs. F., a widow, fifty years of age, was seen by me at the request of Dr. Bixby. She had been under treatment by Dr. Bixby for several months for nervous prostration, with hysterical manifestations. She had suffered from attacks of severe pain in the left side, and her left leg had been drawn up and flexed at a right-angled position and had remained in this position for one and a half years. There was no history of arthrites or of pain or swelling of knee. Under ether the limb was forciby straightened, a few slight adhesions giving way. The limb was kept in a straight position by a plaster-of-Paris bandage, and later a ham splint. The patient subsequently was allowed to walk about with crutches, using a ham splint at first, and at the present time, two years later, walks about with a straight limb without crutches or splint, but complains still of occasional pain and weakness in the left side and limb.

Case IX. A boy, twelve years of age, was referred to me by Dr. Doe for examination. Before he had been put off a horse car by a conductor, and claimed to have fallen and struck his right side. A few weeks afterwards he complained of pain in his limb. He was kept in bed for a short time, and then urged to go about. He limped badly, with the foot turned out to a marked degree, and this had continued for two months. On examination no evidence of disease at the knee, hip, or ankle, and no paralysis of muscles could be found. The foot, however, assumed the position of a valgus deformity, causing him to limp as if suffering from valgus of the foot following infantile paralysis or disease of the tarsus. He was in a nervous condition, and cried immoderately during examination. His condition, however, improved under tonics and exercise, and he was finally reported six months later to have entirely recovered.

This class of cases is of course analogous to the well-known affection which has been termed spinal irritation — characterized chiefly by a tenderness in the spine and disability to a greater or less degree. The two following cases will serve as an illustration: —

Case X. A young girl, eighteen years of age, on account of great pain in her back, took to her bed, being unable to walk about. Her previous history had been one of good health, and she gave no evidence of an excitable temperament. Her mother had died in an insane asylum, but the girl had been sensibly brought up; she had grown very rapidly in the three preceding years, was tall, rather thin, and without much color. Her general condition was otherwise good. On examination of the back nothing abnormal was observed, except extreme hyperæsthesia all along the spine. The patient stated that she was unable to stand, but could sit up in bed.

The family physician had, recognizing the nervous nature of the affection, endeavored to oblige her forcibly to stand, but without success. The patient was treated at home and advised to remain entirely recumbent for a short time and then given slight exercises, increasing in amount each week. At the end of a month she requested to be allowed to sit up; at the end of a few months she began to walk about; in a year she had entirely recovered her strength; and a year later took her position as an active member of society.

Case XI. A girl, fourteen years old, had had caries of the spine in the lower dorsal region when five years old, from which she appeared to have recovered fully after three years, being able to run about readily and attend school; at about the age of puberty she, however, began to complain of pains in her legs, and her physician, fearing a return of her symptoms from caries, advised her to be kept in a recumbent position in the way in which she had been before successfully treated. This was scrupulously done, and for a year the girl neither sat nor stood up. At the end of this time she was unable to stand up but was able to sit up. She complained of a burning sensation in the back and intense hyperæsthesia, of pain and weakness in the legs, and of occasional severe headaches. The patient was gradually taught to stand and to walk with crutches, this being brought about by placing her flat upon a frame which each day was raised more and more, so that she was gradually put upon her feet, supporting herself from her arms with crutches. She was then taught to walk, and soon learned to walk with crutches quite freely.

She was then taken home from the St. Margaret's Home where she had been staying. Her condition remained substantially the same; she remained absolutely wedded to her crutches, though in walking she did not practically use them, bearing no weight upon them; if, however, they were removed she sank to the floor. She was in good general condition. She had worn a leather jacket as a support for her condition of caries of the spine, and felt herself unable to sit up without it. In this condition she was induced to visit a shrine at a Catholic church and offer prayers daily, walking to the church from her house (a comparatively short distance). In the midst of her prayer on the ninth day she exclaimed that she felt strong, and discarded her crutches and jacket, and has since walked without them. She is said to have had no relapse since then.

The above cases are undoubtedly examples of slight conditions of that peculiar state or temperament which has been misnamed hysteria. Whether any local strain has been in any way influential in determining the local manifestations in the limb of the peculiar condition of the nervous system remains a field for speculation. The writer will not venture on any theory as to the pathology of this class of disorders. The symptoms certainly appear sometimes in patients manifesting few of the usual characteristics of well-marked hysteria; certainly in all which have come under the writer's observation a well-balanced nervous system did not appear to be present. It was inferred that an undue sensitiveness to external irritation was present. A distinct feigning was not observable in the cases here reported. The fact that the consciousness was directed unduly upon certain sensations, and that the importance of these sensations was unconsciously exaggerated, undoubtedly plays an important part in producing this hypersensitiveness, but another factor must coexist. The sound of an electric bell varies not only with the quality of the enunciation, but also with the circumstances making the electric current strong or

weak. The sensation of pain may be acute from a slight irritation, either because the mental attitude may be one of exaggerated expectancy or because the ganglionic cells of the cord receiving and transmitting the irritation are in an unduly sensitive condition. How far the state is due to a cerebral condition or to one of the spinal cord will not be discussed here.

The diagnosis, it scarcely need be said, is sometimes quite difficult, and the details vary necessarily in each case. In some cases a diagnosis cannot be made on a single examination. As a rule, however, the recognition of purely functional affections can be based on the absence of the positive symptoms of joint disease and on the medical inconsistencies of the symptoms present.

Muscular atrophy is present in an early stage of true affections of a joint, even when the disability of the limb is slight. A marked diminution of faradic electrical contractility of the muscles is also present in joint affections at a comparatively early date in the history of the disease. In the so-called hysterical affections atrophy is only seen where there has been a marked disuse of the member, and the diminution of the faradic electrical contractility corresponds to the amount of muscular atrophy. Furthermore, in true joint affections a certain proportionate relation exists at the different stages of the affection between the symptoms of pain, tenderness, position of the limb, amount of stiffness, and the way in which the limb is moved. This can be readily recognized by any one who has watched a number of these cases. In the functional troubles of the joints this relative proportion is not preserved. More limping, or muscular spasm, or pain is present than would be expected at a certain stage of a true arthritis indicated by the position of the limb or the limp in gait — or the reverse may be true.

The treatment should be the reverse of routine, and necessarily equally good results will be brought about by impressions produced in different ways. Of cases here reported where treatment was attempted the basis of treatment was the acceptance of the fact that the symptoms indicated to the patient an actual and not an assumed condition. This condition was met with the enforcement of rigid rules, followed by a gradual relaxation of these rules and a gradual enlargement of the scope of action as the patient accepted the ability of freer action. In the severer cases absolute isolation from the indulgent atmosphere of sympathizing friends is essential. The patient must be reduced to an infantile state and gradually trained to exertion and endurance. Of course in lighter cases such extreme discipline is not necessary. Massage, electricity, ice, and heat to the spine, forced feeding are of undoubted value in certain cases, but the writer is doubtful whether they are to be looked upon as direct remedial agents and not rather as mental alteratives, supplying new sensations, or temporizing agents, while the nervous system is gaining its poise. Purely local treatment, such as cauterization, counter-irritation, is usually harmful as it concentrates the patient's attention upon local sensations, and appliances are to be avoided except in certain cases to temporarily correct vicious positions.[1]

[1] Vide also Shaffer, The Hysterical Element in Orthopedic Surgery and Neuroses of the Hip in Diseases of the Hip, G. P. Putnam's Sons, New York, 1880. V. P. Gibney, Bermingham & Co. New York, 1884.

A CASE OF STRANGULATED UMBILICAL HERNIA.[2]

BY H. L. BURRELL, M. D.

ON December 12, 1883, H. K., aged fifty-two, a woman weighing 230 pounds, entered the Carney Hospital with a strangulated umbilical hernia. The tumor was livid in spots, had a doughy feel and tympanitic resonance. The hernia had existed for years, but the patient had always been able to reduce the mass until sixty hours before entrance. There was no impulse on coughing, and the tumor presented a median raphe not unlike that existing on the scrotum. At the juncture of the skin of the dependent portion of the tumor with that of the abdomen an ulceration existed not unlike that which takes place at the junction of the scrotum with the perinæum in extravasations of urine. Since the hernia "had been caught" the patient has had intense abdominal pain, continuous vomiting, and no dejection. The temperature was 101° F.; the pulse 150, small and wiry; the face was pinched, and patient was very anxious. The dangers of operating and the probabilities of non-interference having been clearly explained to the patient she was etherized, and taxis was tried without avail.

Operation. An incision was made, three inches in length, at the junction of the superior part of the tumor with the abdomen, extending well up on the abdomen. The division of the skin, which was very thin, was followed by a serous exudation, showing that a few more hours would have produced sloughing. The hernia was liberated, after some difficulty, by dividing the constricting ring. Owing to the depth of the incision, and the tenseness of the overlying tumor, it was found impossible to divide the constriction from within outwards; it was, therefore, divided with much care from without inwards. The peritonæum was, from necessity, opened. The hernia was reduced, leaving considerable adherent omentum remaining. This was removed by ligating it in pieces. The redundant skin which had covered the hernia was then removed, leaving an abdominal section four or five inches in length. The hæmorrhage was slight and easily controlled. Small sponges were kept in the bottom of the wound to prevent the blood from trickling into the abdominal cavity. The wound was brought together by three wire sutures, which included the peritonæum and whole abdominal wall with intervening superficial sutures. The wound was dressed with bichloridized gauze, a binder was adjusted, and patient was placed in bed.

December 13th. Came out of ether well. No pain. Free movement of the bowels during the night. Pain to be controlled by morphia.

December 14th. Had a loose dejection during the night. No morphia necessary. Has taken a fair amount of nourishment, and vomited but once. Patient is very stupid.

December 15th. This A. M. patient lies on back; face flushed; pupils contracted; very stupid. Temperature 100° F.; pulse 122. Abdomen not tender. On removing the dressing the wound was found to be united superficially, but on pressure an offensive, sanious fluid exuded from the lips of the wound. This came from the large abraded surface which existed owing to the removal of the adherent omentum. All

[2] Read before the Surgical Section of the Suffolk District Medical Society, May 7, 1884.

the superficial and two of the deep wire sutures were removed. The wound was thoroughly syringed out with chlorinated soda, and a drainage tube was introduced into the depth of a cavity which the hernia had formed by insinuating itself into the adipose tissue, and which extended upward and to the left, external to the recti muscles. Wound packed with iodoform.

The wound was syringed out night and morning, and packed with iodoform, the patient having numerous dejections daily, taking a fair amount of nourishment and stimulants, requiring no opiates, and sleeping the greater part of the time until December 21st, when the remaining wire suture was removed. On taking out the drainage tube a mass of necrosed tissue was removed. Flaps were much undermined.

The temperature remained practically normal, and the wound looked very well at each morning dressing, but an area on the left side seemed to remain *in statu quo*. On January 5th, in dressing the wound, on introducing the dressing forceps to remove a supposed piece of necrosed tissue a small piece of sponge, the size of a chestnut, was removed. This sponge had been packed beneath the flaps to check hæmorrhage at the time of the operation, and to my chagrin had been inadvertently overlooked in uniting the wound, and explains the persistency of the discharge.

On January 28th the temperature rose to 102° F.; the following day it reached 103.5° F., and the patient had headache and nausea. The iodoform which had been used in dressing the wound was omitted, and the following morning the temperature was normal, and the headache and nausea had ceased.

The patient's convalescence was delayed, but she left the hospital on March 5th with a perfectly united abdominal wall. She was advised to wear an abdominal support for a time.

The justifiableness of further operative interference arose when the strangulated intestine had been liberated and returned to the abdominal cavity. Had the case been left to itself at that time we can readily see how difficult it would have been with practically a punctured wound of the abdominal parietes, through which the operator had been able to relieve the constriction, to have prevented the natural drain of fluids into the abdominal cavity. For this penetrating wound of the abdomen was substituted an abdominal section, five inches in length, in the median line, the adherent omentum was removed, the abdominal walls, including the peritonæum, were subsequently brought accurately in apposition, thus making an effort which, in this instance, was successful, to render permanent the relief to this ever-present danger.

— According to the *Lancet*, at Bridgewater, England, on the 5th of September, a laborer fell into a trance, and his wife, thinking he had died suddenly, made preparations for the funeral. The vicar, however, on being informed of the facts, inspected the supposed corpse, and refused to allow it to be buried, since it was not cold enough to satisfy him that actual death had taken place. The body was placed in a coffin and conveyed to the church, where it was frequently visited by the vicar and others. On the 8th of September a slight movement occurred, the man was removed to bed, and has since slowly recovered.

THE CURE OF CROOKED NOSES BY A NEW METHOD.[1]

BY JOHN B. ROBERTS, M. D.

I PRESENT this patient to the Society to show the manner in which I treat the very disfiguring lateral deformity of the nose, so often seen after falls or blows which have fractured the septum and cartilages. The method is, I believe, original. It is certainly attended with very little inconvenience to the patient, who, after recovering from the anæsthetic, can at once attend to his occupation without wearing any apparatus to call attention to the surgical procedure by which his crooked nose is being made straight and shapely. The usual advice given to patients with deformed noses, from nasal fracture sustained in childhood or later, is to undertake no surgical treatment, but to become reconciled to the disfigurement of feature as best they may. This is, I am sure, improper advice. The cosmetic objection to a crooked nose is cogent; and, moreover, obstruction of one nostril, from the displaced cartilages, is a frequent accompaniment of such lateral deviation of the tip of the nose.

This man sustained, ten years ago, a fall upon his face, from which he recovered with the end of the nose bent to the right, and with considerable obstruction of the left nostril. I operated on him day before yesterday. You see now a straight nose, and nothing to call attention to the operation except a small piece of black court-plaster a little to the right of the nasal bridge. Just within the right nostril close inspection reveals the head of a pin, situated on the side of the septum, near the columella. The method of operation, therefore, is certainly not objectionable on account of making the patient unpleasantly conspicuous during treatment. This evening I merely wish to show the man, and refer to my method of dealing with such cases, because at a later time I hope to bring the subject of curing nasal deformities before the Society in a more formal and elaborate manner. Then, I may have no patient undergoing straightening of the nose to illustrate the remarks.

Replacement of the deformed structures in this case was very simple. With a scalpel introduced through the left nostril I perforated the cartilaginous septum at its upper and back part, and made a long incision through it in a direction downwards and forwards. This permitted me to push the whole cartilaginous portion of the nose to the left, and overcome to a great extent the lateral deformity. To retain the parts in this position I introduced a steel pin, about one and one fourth inch long, into the right nostril, and passed it completely through the anterior and upper segment of the divided septum, near the columella. Having the movable portion of the septum thus transfixed, I was enabled, by carrying the head of the pin to the left, to move the anterior part of the nose to the left, and retain it there by imbedding the point of the pin deeply in the immovable cartilaginous septum and mucous membrane at the back of the left naris. In other words, I incised the deformed cartilage, and pinned it in position very much as you would pin a flower in the button-hole of a coat. There still remained a little deflexion of the end of the nose to the right, which seemed to be due to mal-position of the lateral cartilage

[1] Read before the Philadelphia County Medical Society, September 17, 1884.

close to the right nasal bone. With a tenotome in the right nostril, I pared the cartilage loose, without perforating the skin, and pinned the parts over to the left by a second pin inserted from the cutaneous surface of the dorsum on the right of the median line. The point of this pin was fixed by having its point imbedded in the tissues of the left naris. It is the head of this second pin that is covered by the small square of court-plaster. The correction of the angular deformity of the septum removed most of the occlusion of the left nostril, which had greatly annoyed the patient.

I have thus given an idea of the method, which has, I believe, great capability for relieving unsightly nasal deformities. The novelty consists merely in pinning the parts in position until cicatrization takes place. Endeavors have occasionally been made, as by Mr. Adams, Dr. Weir, and others, to hold deflected noses in position, after operation, by the use of clamps, rods attached to the forehead, adhesive plaster plugs, and similar devices. All of these are objectionable, because so conspicuous and troublesome, and would probably be adopted only in instances of great deformity. The pin method, however, leaves no noticeable scar, is not troublesome to the patient, and is applicable, therefore, even to those slight deformities, whose chief annoyance is an æsthetic and cosmetic one. I leave the pins in position for about two weeks.

A few years ago Dr. Mason, of Brooklyn, recommended the use of steel needles to hold the nasal bones in position, when, after recent comminuted fracture, it was difficult to keep the fragments sufficiently elevated. He transfixes the nose below the depressed fragments, and carries a piece of plaster or a rubber band across the external surface of the bridge from one end of the needle to the other. The needle acts as a girder to tie the base of the nasal arch and prevent its falling in. This is a different use of the pins or needles from that which I am describing, and for a different purpose.

I have pins of lengths varying from one inch to two and one fourth inches, and with flat heads, so that there will be little projection under the court-plaster to attract attention when the patient is in public. The heads are square, that the pins while imbedded may be, if necessary, readily rotated by the fingers.

When the deformity is in the osseous portion of the nasal bridge section with small chisels is usually necessary. Discussion of this topic, however, would carry me beyond the limits of the present subject.

Free incisions are essential in obtaining good results in cases of nasal deformity such as was exhibited by this patient. The surgeon must not spare the knife and thereby spoil the nose. Secondary operations may sometimes be required to get the best results. If a simple incision did not allow proper adjustment I should excise portions of the cartilage with the oval punch or the scalpel, or make multiple stellate incisions with the stellate punch, and so produce general flexibility of the cartilage.

Recurrence of deformity would, I think, be less likely to occur after free incision, pinning, and cicatrization than after simple dilatation with or without incision with the stellate punch.

— A recent writer in the *Medical News* (August 30th) speaks of a case of urticaria causing miscarriage.

NOTES OF A CASE OF POISONING FROM MRS. WINSLOW'S SOOTHING SYRUP.[1]

BY A. B. HIRSH, M. D.

WITH the object of adding my quota to the list of serious accidents resulting from the indiscriminate sale of secret medical preparations, I have gathered the notes of the following case: —

Mrs. A. H. L. took her twenty months' old boy to visit some friends, and while there they (all unknown to her) fed him some unpeeled apple and other indigestible material. Being colicky all that night and next morning she was persuaded by a "friend" to purchase a two-ounce vial of the nostrum sold as "Mrs. Winslow's Soothing Syrup," and of this gave him half-teaspoonful doses, as the directions called for, although she insists half of each quantity was spilt through his struggling.

He took, therefore, the first dose at four o'clock on Sunday afternoon (August 24th) and, there being no effect, another at eight; then dozing but not sleeping from this time till three next morning, the pain starting him again to whining, he was dosed at five; still crying on, three quarters of an hour later the final similar amount was administered. The mother soon became alarmed at the marked stupor which had now set in. He would touch none of the breakfast placed before him, Mrs. L. said; although sitting upright in his high chair, his head hung listlessly, and he recognized nobody.

I saw him at 7.45 A. M. and found marked symptoms present of poisoning by some narcotic drug. The pupil was contracted down to the typical pin-head; stupor was unmistakable; respiration was very slow, gasping, and shallow, while at irregular intervals he would take two or three rapidly succeeding deep sighs; the pulse was rapid and small; the extremities were cold throughout the case. Taking all these symptoms into consideration, and the fact that the breath bore the peculiar odor of an opiate, I felt warranted in treating the case for one of poisoning by some preparation or derivative of that drug.

The stomach and bowels were emptied at once; frequent cold sponging was ordered, with wet cloths placed on the nape of the neck whenever great trouble existed in keeping him awake. Tr. belladonna was given hourly in aqueous solution. The parents were directed to keep him awake by all means.

By noon he would begin to lift the eyelids a little, but relapsed into a sort of doze by two P. M. Despite all their efforts he fell once more into a stupor by six. Calling about this time, I insisted on the mechanical exercises being continued, feeling encouraged by the somewhat improved breathing, and that I succeeded, a little while later, in arousing him. As the pupil had now slowly begun to dilate, the medicine was ordered to be given every half hour, or twice as often as before. By eleven he began to lighten up, and on calling, half an hour later, I found him languidly trying to push his ball around the table upon which he sat. The pupils were widely dilated, and respiration free. He was allowed to sleep, with slight interruptions, from midnight until six A. M., after which the child showed his great thirst by frequent demands for ice-water. Incoordination of the voluntary muscles now became noticeable, and continued until next morning. A typical

[1] Read beore the Philadelphia County Medical Society, September 17, 1884.

belladonna rash was now likewise beautifully shown, also to disappear in time. He slept for two hours about noon, being exceedingly irritable afterwards, but, excepting the use of a tonic, required no other treatment.

As stated in the beginning of the notes this case is merely placed on record to help expose an existing evil, believing that continuous agitation will finally induce the intelligent public to demand the regulation of the sale of patent medicines, a fact concerning which there never was any doubt in the profession.

A fatal result would inevitably have here occurred had no treatment been instituted, and I feel convinced that many such cases happen in our midst which should be reported.

The case is the more pertinent at this time when any fakir or shop-keeper may legally retail unlabeled poisons in the guise of patent medicines, while one of our inconsistent laws is now being so interpreted as to inform the patient that, in very many cases, his doctor has prescribed him medicine containing poison.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.

SURGICAL SECTION.

S. J. MIXTER, M. D., SECRETARY.

MAY 7, 1884.

DRS. A. T. CABOT and H. L. BURRELL reported

CASES OF STRANGULATED UMBILICAL HERNIA.[1]

DR. HODGES said that there was no doubt that the operation for the relief of strangulated umbilical hernia was more successful now than formerly. At the time when the paper referred to by Dr. Cabot was written the speaker took a much more conservative view of the operation than now, as the advance in antiseptic methods of operating has probably greatly lessened the mortality. Bringing the peritoneal surfaces of the abdominal wound in apposition when sewing up was often done in former times, to his certain knowledge as early as 1852, when the operation was followed by a much greater percentage of deaths than now. Hence we must infer that this method of uniting the edges of the abdominal incision is of less importance than strict antisepsis. Dr. Hodges also spoke of a method of treatment of reducible umbilical hernias, first suggested by Dr. H. J. Bigelow. The hernia is reduced, the sac invaginated and held in place by a small stick fastened at right angles to the surface of a small board, the end of the stick being wrapped with cotton and pushed through the ring. The whole is then firmly held in place by means of a swathe. This is worn for two days, and then fresh cotton saturated with caustic ammonia is applied in like manner, the sac becomes excoriated, and on withdrawing the stick the cutaneous surfaces unite and the ring is closed with a mass, probably shaped like a shirt stud. The speaker had that day discharged from the hospital a patient, a very fat woman with a large hernia, cured by this method. This case and the case reported by Dr. Bigelow are the only two on record.

DR. CABOT called attention to the fact that the best reported results in umbilical herniotomy were those of Lawson Tait, who disregards antiseptic methods in his operations.

DR. GREENE spoke of the difficulty in making any mechanical appliance which will keep a large umbilical hernia in place, and the great value of any operation that shall, without danger to the patient, radically cure the hernia.

DR. H. L. BURRELL read a paper on

UNILATERAL ATROPHY.[2]

DR. HODGES remarked that cases of asymmetry were probably much more common than is generally supposed. It is often noticed in the face, and he could recall three persons among his acquaintances where it is quite marked.

DR. JEFFRIES WYMAN called attention to the fact that the legs were very frequently of different lengths, and this should be remembered when looking for shortening after fractures.

DR. R. M. HODGES read a paper on

EXCEPTIONAL FATTY TUMORS.[3]

DR. CABOT mentioned a case sent in from the outpatient department for operation, supposed to be a ganglion on the back of the middle finger, which proved to be a fatty tumor.

NEW YORK ACADEMY OF MEDICINE.

THE THREE TONSILS, SOME PRACTICAL SUGGESTIONS IN REGARD TO THEIR STRUCTURE, FUNCTION, AND DISEASES.

AT a stated meeting of the Academy held Thursday evening, October 2d, DR. J. H. BOSWORTH read a paper on the above subject. By the three tonsils are to be understood the two glandular masses found between the pillars of the fauces, to which the name tonsil is usually applied, and the mass of glands found in the vault of the pharynx, sometimes designated the pharyngeal tonsil. He then pointed out several errors in the description of the faucial tonsils as usually given in the books. Thus, he said, they were not covered by a fibrous sheath; though underlying them there was a more or less dense connective tissue layer, continuous with the submucous layer, which underlies all mucous membranes. The tonsil was not an "almond-shaped organ," as a rule, but was of whatever shape the morbid process which had caused its growth might give it. It was not an organ of the body in the sense that the liver and spleen were organs, and, therefore, in this sense had no especial function to perform in the economy. In the healthy throat there were virtually no tonsils, these so-called organs being merely the result of a morbid process. In a condition of health the normal aggregations of glands in the pharyngeal vault and between the pillars of the fauces did not project prominently from the mucous membrane, and hence in a perfectly healthy state their existence was not easily demonstrated by gross inspection. The mucous membrane of the upper air-passages, however, was peculiarly liable to be the seat of morbid action. It was a very noticeable clinical fact also that while

[1] See pages 363 and 368 of this number of the JOURNAL.

[2] To be published hereafter.

[3] See page 361 of this number of the JOURNAL.

in adults it was the mucous membrane proper which was most liable to be the seat of disease, in children it was the glandular structures which were especially susceptible. The tendency of chronic inflammatory processes was towards hypertrophy, and hence it was found that a moderate hypertrophy of these glandular masses was of exceedingly frequent occurrence in the young, constituting in the one position so-called enlarged faucial tonsils, and in the other an enlarged pharyngeal tonsil.

The pharynx, he went on to say, was really composed of two cavities, differing materially in structure and function, the upper pharynx belonging to the air-tract, and the lower pharynx to the food-tract. The lower pharynx was very scantily supplied with glands, and yet in the performance of its function it demanded an abundant supply of mucus. In order to compensate for the deficiency it was surrounded on three sides with large aggregations of glands, constituting the three tonsils referred to. The sole and only function of these masses of glands was, he believed, to supply mucus to moisten and lubricate the lower pharynx. The resemblance of the faucial and pharyngeal tonsils was so strong that the only difference in structure was easily accounted for by the fact that the pharyngeal tonsil was protected from any impact of foreign substances, and was, therefore, of a more soft and spongy consistence than the faucial tonsils, which, being subjected to much harsher usage in the act of deglutition, contained a greater amount of, and more firmly organized, connective tissue.

From a pathological point of view still further grounds for grouping the three tonsils together were found, for the same morbid processes which occurred in the faucial tonsils were met with in the pharyngeal tonsil, namely, acute inflammation, chronic inflammation, resulting in hypertrophy, acute follicular inflammation, croupous inflammation, and diphtheritic inflammation. Acute tonsillitis was a name generally given to quinsy, but quinsy, he claimed, was not a disease of the tonsil, but an inflammation of the cellular tissue of the soft palate or neighboring parts, phlegmonous inflammation, in his opinion, not occurring in the tonsil. As a matter of fact, therefore, the only form of acute inflammation met with in the tonsil was a catarrhal inflammation, namely, one attended with hyperæmia, swelling, and hypersecretion. This was usually described under the term subacute inflammation, and it occurred in the pharyngeal with the same frequency as in the faucial tonsil, being attended with the same mild constitutional disturbance, and caused, as a rule, by exposure to cold. The main predisturbing cause was an enlarged pharyngeal tonsil, just as enlarged faucial tonsils were the main predisposing cause in subacute inflammation of the faucial tonsils. It could easily be understood how, in the case of a mild inflammatory process occurring in the pharyngeal tonsil, the symptoms would be mainly nasal. The attack was usually regarded as an acute coryza, but this, he believed, was an error, since acute inflammation of the nasal mucous membrane in children was very rare. As before remarked, in children the glandular structures were the parts generally attacked, and not the mucous membrane proper, so that their colds, if in the throat, were in the faucial tonsils, and if in the nasal passages were in the pharyngeal tonsil.

He then described acute follicular tonsillitis, in which the constitutional symptoms were very much more severe than, in his opinion, could be accounted for by the amount of local inflammatory action, and claimed that this disease was an essential fever, with a local manifestation in the throat, something in the nature of one of the exanthemata. The same affection, he had found, frequently occurred in the pharyngeal tonsil. Croupous tonsillitis he regarded as identical with follicular tonsillitis, except that the eruption was more marked or efflorescent. The exudation, which in the latter confined itself to the crypts of the glands, in the former filled and overflowed them, forming a continuous membrane. If this were detached from the surface there would be found beneath it the appearances of the follicular disease. A similar membrane, with its appearance attended with the same general symptoms, he had frequently observed on the pharyngeal tonsil.

Having referred to diphtheritic tonsillitis as always occurring in connection with the blood-poison of diphtheria, he went on to speak of hypertrophied tonsils. Hypertrophy of the faucial tonsils, he said, gave rise to a train of symptoms, which were mainly due to the mechanical presence of these glandular masses in the fauces. They occurred mostly in young people, and their development was attended by the occurrence of repeated attacks of subacute inflammation or ordinary catarrhal sore throat, while they showed a tendency to subside at puberty. Hypertrophy of the pharyngeal tonsil had been described by many writers, usually under the heading of adenoid tumors or vegetations at the vault of the pharynx, and in all its aspects, except in its location, it was identical with the faucial disorder. In this view, then, enlarged tonsils in either region were simply masses of diseased glands, whose function had, in the main, been abolished or perverted by the morbid process which had fixed itself upon them. If the hypertrophic process was limited, and the tonsils were of small size, giving rise to no untoward symptoms, they required no treatment, but if the hypertrophy had gone to the extent of developing a glandular mass, which by its presence interfered with the function of the parts, or which in any way gave rise to serious symptoms, he thought that there could be no question as to the proper remedy. They were diseased structures, and ought to be extirpated, for as regards any local medication he believed it to be absolutely inert in reducing genuinely hypertrophied glands. It was sometimes said that nature placed these tonsils in the throat, and that they should not, therefore, be removed, but the fact was that nature never did put them there. He then went on to speak of the operation of tonsillotomy, maintaining that the entire mass, and not merely a portion, should be removed. In children hæmorrhage never occurred, but in adults it was liable to be met with, although literature recorded not a single fatal case, with the exception of those in which the inexcusable blunder of cutting the carotid artery had been made. The best means of arresting hæmorrhage was the application of a wire heated to a dull red heat.

For three years he had maintained that quinsy was not a disease of the tonsil. The latter, it was true, often presented a red and angry appearance, but this was always secondary, and due to the fact of its nearness to the phlegmon. Again, the tonsil was occasionally very prominent, being lifted from its bed, and at times projecting far toward the opposite side of the fauces, but this was because the phlegmon was situated

behind it. The cause of quinsy he believed to be in very many cases the rheumatic habit, and the connection between the two diseases seemed to be confirmed by the results of the treatment which he had resorted to. For the last three years he had treated all his cases of quinsy by salicylate of soda, and of those which he saw within the first thirty-six hours the attack was thus aborted in a majority of instances, while in those in which the attack was not aborted suppuration seemed to be very much hastened. In several cases in private practice in which the quinsy habit had existed he had directed the patients to use this remedy immediately upon experiencing any symptoms of these attacks, and in no one of them had an attack occurred. He had also used, with success, in connection with the salicylates, the local application of bicarbonate of soda, as recommended by Dr. Barker. If in any instance the attack was not aborted by medication, or if the case was seen too late for this, the abscess was to be treated on general surgical principles, and the constant resort to digital examination was recommended as of material assistance to the medical attendant. The suggestions which he had ventured to advance in the paper were based on convictions which were the result of a somewhat large experience, and in acting upon them he felt confident that he had obtained better results in the treatment of throat diseases than in following the older doctors.

The discussion of the paper was opened by the President, Dr. Barker, who said that he had formerly been in the habit of using large doses of quinine, in connection with opium, for the purpose of aborting attacks of quinsy, and that for the past four years he had employed, in addition, the local application of bicarbonate of soda. He regretted that he could not now recollect how or by whom this remedy had been suggested to him; but since he had resorted to its use he had not seen a single case which went on to suppuration, although in a number of instances he had not been called upon for advice until comparatively late in the attack.

Dr. Douglas said he was firmly convinced from his experience that quinsy was intimately associated with gout and rheumatism. He had met with it, however, more frequently in connection with the former than the latter, and had, in a number of instances, seen attacks of quinsy alternating with those of gout, one occurring one year and the other the next year. For many years he had been in the habit of using bicarbonate of soda in the treatment, not only in the manner suggested by Dr. Barker (applied on the end of the finger), but also as an injection thrown into the posterior nares. He believed that Dr. Bosworth was correct in his statement that the tonsils did not appear at all to the eye in the healthy throat, and the same was true of the group of glands at the base of the tongue, which were also liable to become hypertrophied as the result of disease. He could not agree with him, however, that these abnormal structures could not be removed except by means of the knife. By a course of mild and gentle treatment they could be effectually removed, though the process was a long and somewhat tedious one. He was in the habit of using for this purpose a combination of camphor with salt and ammonia; employing five parts of the mixture to the hundred of sugar of milk.

Dr. Frank Hamilton was inclined to think with Dr. Bosworth that these excrescences ought to be removed, and that this could be best accomplished by means of the knife. But at the same time the fact was not to be forgotten that they were only exceptionally met with after the age of twenty-one; and it had occurred to him that perhaps the good results which Dr. Douglas had noticed in cases where the operation was not performed were in reality due more to the lapse of time than to the remedial measures adopted. Except in cases where the tonsil was in a state of acute inflammation, and in those where the hæmorrhagic diathesis was present, he agreed with Dr. Bosworth that the operation was unattended with danger. When hæmorrhage did occur, however, the best and promptest way of controlling it was the application of cold in the form of the ice or snow cravat.

Dr. A. Jacobi made some remarks on the subject of tonsillotomy, in which he said that when tonsils had become permanently enlarged they were amenable to no other treatment than by the knife, and that the only satisfactory way of controlling hæmorrhage when it occurred after the operation was the compression of the bleeding surface by means of the finger. In regard to follicular tonsillitis he could not agree with Dr. Bosworth that the disease was an essential fever, and in conclusion he pointed out the danger to the community of mistaking mild cases of diphtheria for it.

Dr. Weber had never met with any cases of quinsy in which there appeared to be any connection whatever with rheumatism or gout, and was inclined to believe there was danger of following out the English idea too far in this respect. As to the treatment by internal medication he had had no experience, being always accustomed to evacuate the abscess as soon as possible. Hence he was in the habit of making frequent digital examinations.

Dr. Barker mentioned the papers on the use of guaiac in quinsy published in the early numbers of the *London Practitioner*, and stated that he had tried the remedy faithfully, but without any satisfactory results; after which Dr. Fruitnight said that in three cases he had succeeded in aborting attacks of the disease by giving one drop doses of tincture of aconite root every hour for several hours, as suggested by Sidney Ringer.

Dr. Brandeis had also used the latter with success, but in connection with fifteen or twenty drop doses of ammoniated tincture of guaiac. In regard to the tonsils, he was satisfied that these organs served a purpose in the economy, and yet at the same time he did not doubt that a diseased tonsil was worse than none at all. Hence he believed that it ought to be removed, and he then proceeded to speak of the advantages of the tonsillotome over the ordinary knife for this purpose.

Dr. Jarvis spoke of the danger from hæmorrhage of removing with the knife hard or cirrhotic tonsils, such as were frequently found in syphilitics, and advised that the snare or cautery should be used in such cases. As a rule, he thought it best that the entire body should not be removed, as he believed that the tonsil served a useful purpose in forming a pad for the protection of the carotid artery from injury.

Remarks were also made by Drs. Alfred C. Post and J. L. Corning, and the discussion was brought to a close by Dr. Bosworth.

— The Pope has given $200,000 for the erection of a new hospital at Rome, near the Vatican.

Recent Literature.

Text-Book of Medical Jurisprudence and Toxicology. By JOHN J. REESE, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son & Co. 1884.

Professor Reese sets forth the scope and aim of his book with sufficient clearness in his preface. Having become convinced by an "experience of over twenty years as a public teacher of this branch of science, that students who desire to acquire a knowledge of medical jurisprudence are too often deterred from their purpose by being confronted by the ponderous works of recognized masters," he has "endeavored to condense in a handy volume all the *essentials* of the science and to present the topics in a simple and familiar style." Under these limitations, deliberately established, the author has produced an excellent book. All the subjects usually included in a treatise on legal medicine are considered with more or less fullness and always attractively. But it is a fair question whether, in thus confining himself, the author has done himself or his themes the fullest credit. The main defect of the volume seems to us to be this intended leanness; in the steady purpose to "condense," the author has trimmed his composition too often to an extent that suggests unpleasant emaciation. It is as if one of a class of bright students taking well-written notes of the professor's own lectures had published those notes and called the product a text-book. In other words, the book is suggestive rather than exhaustive. One would hardly seek these pages first of all in the list of works on medical jurisprudence, if occasion demanded of him a preparation for creditable appearance in a medico-legal case; he would naturally turn to other authorities whose writings are the substance of which this volume is a thin shadow. Both the lawyer and the doctor, when "compelled to cram for the occasion" of an impending trial (as the author expresses it), would scarcely rest satisfied if limited to the "essentials" here provided. And we meet repeatedly in the book such clauses as, "These [topics] cannot be farther enlarged upon here;" and "In a work like the present it would be impossible to enter into a full discussion of the subject;" as if the author himself felt hampered by his self-imposed barriers.

Nevertheless, within the limits described, an attractive and instructive volume is the result. The phenomena and signs of death, the details of the medico-legal autopsy, the means of identification of the living and the dead, deaths from wounds, burns and the various forms of asphyxia, by lightning, heat, cold, and starvation, — these are discussed in the first third of the book. In an introductory chapter on the relations of medicine and law, the author describes the "coroner's inquest" without a word of comment on its uselessness or a single reference to the successful measures which have been taken to supersede it with something better. "In all civilized countries," he writes, "a special officer, named the *coroner*, is appointed to investigate" deaths occurring under suspicious circumstances; there is no hint that uncivilized communities, like Scotland, France, Germany, and even benighted Massachusetts, get on very well without the services of the coroner.

The section on poisons, as might be expected from the author's enviable reputation as a toxicologist, is admirably written. Statements have occasionally crept into the text, however, which invite criticism. It is declared that "poisoning is the most frequent of all the causes of violent death (the casualties of war excepted)," and that the statistics of various countries show this to be true; this seems a most extraordinary declaration, and we hope that in future editions the statistics will be given in a foot-note. A poison is defined as "a substance which, when introduced into the body by swallowing, or by any other method, occasions disease or death; and this, as an ordinary result, in a state of health, and not by a mechanical action." We cannot but believe that a medical witness, using this definition in court, would find himself in trouble, if cross-examination were faithfully conducted.

In the sections relating to the vegetable poisons there is sometimes a want of definiteness; thus, the fatal dose of strychnia is given as from half a grain to a grain; that of tincture of aconite, from half a drachm to a drachm; while of atropia it is stated that "used hypodermically even in doses of one fiftieth to one tenth of a grain it occasions, at times, violent symptoms." Greater preciseness might have been expected.

Fœticide and infanticide, pregnancy, impotence, and rape receive clear and able treatment. The chapter on infanticide is particularly good.

Insanity, malpractice, and life insurance comprise the concluding portions of the book, and their medico-legal relations are well described. The author has no words of comfort for those who believe in "emotional insanity," and he analyzes with much skill the shortcomings of the legal doctrines and distinctions concerning mental disease and criminal responsibility.

A word of cordial praise should be bestowed upon the volume as a specimen of fine book-making; its typographical excellences impress the reader continually. The text is without the usual wood-cut illustrations, but these are scarcely missed in the presence of such clear type and tasteful execution. We heartily second the author's hope that his treatise may "encourage an increasing interest in the students of both medicine and law for that most important, but too much neglected, subject, forensic medicine." D.

Shakespeare as a Physician. Comprising every Word which in any Way Relates to Medicine, Surgery, or Obstetrics found in the Complete Works of that Writer, with Criticisms and Comparison of the Same with the Medical Thoughts of To-Day. By J. PORTMAN CHESNEY, M. D., etc., etc. St. Louis: J. H. Chambers & Co. 1884.

Dr. Chesney's book may be classed under the head of the "Anatomizing of William Shakespeare." He has endeavored to present "truly and faithfully every line and precept in Shakespeare's complete works which in the remotest sense bears upon the science and practice of medicine." The value of the conception seems to us more fairly open to criticism than the manner of execution. We think it would be better for Shakespeare and for the world of letters if the Shakespeare literature had never reached its present proportions, and were to receive no further additions other than

such as might drive into complete obscurity much of that already in existence.

The following passage from the pen of Richard Grant White, with which, in the abstract, we coincide, may be not inappropriately quoted in this connection: —

"More inflated nonsense, more pompous platitude, more misleading speculation, has been uttered upon Shakespeare and his plays than upon any other subject but music and religion. The occasion of which calamity is that of all subjects which are of general interest these are the most remote from reason, the most incomprehensible. Wherefore it is that certain men wish to show the world that they are the high-priests of this mystery, and can prophesy of it, and utter fine sayings about it, apocalyptically, by way of revelation. And there be literary scribes and pharisees whose function it is to stone prophets, and, by a sort of reverse action of nature, to build their tombs when they are dead and buried. Of which the result in this case is a mountain cairn of rubbish above the poet's remains, which tells little but of the multitude who have thrown their missiles there. Each, however, has written his name upon his stone, as who should say, Lo, it is I who have glorified the name and perpetuated the memory of this prophet.

"Besides these critics, and beside them, there arose enthusiasts who began to found a new literary religion, and to proclaim, Shakespeare is Shakespeare, and I am his prophet. Unlike the prophets of other religions, however, they did not accept and proclaim their divinity pure and simple, but set themselves to dissecting and anatomizing him, and telling the world what a marvelous mystery they had discovered this Shakespeare to be: how he saw more than eyes could see, and said more than words could mean; how wise he was, how great, how good; how grand in purpose, how absolute in execution; how perfect, how blemishless, because what would be blemish in others in him was beauty."

Nine chapters, under the following headings, make the volume: Obstetrics, Psychology, Neurology, Pharmacologia, Ætiology, Dermatology, Organology, Chirurgery, Miscellaneous. There are no separate chapters on gynæcology, laryngology, or otology.

The most that can be said of a book of this sort is that it may divert the compiler, and prove curious to some of those who consult it.

Practical Manual of Diseases of Women and Uterine Therapeutics, for Students and Practitioners. By H. MCNAUGHTON JONES, M. D., etc. New York: D. Appleton & Co., Bond Street. 1884.

Dr. Jones can hardly be said to have written a great work, nor does he profess to have done so. He has, however, given to the profession a useful little manual which will undoubtedly fulfill the purpose for which it was written. It will, we think, be of more value to the student than to the practitioner, for as it is necessarily so condensed as to contain only the most important facts, the points about which a practitioner would be in doubt would need a more extended treatise for their solution.

The author treats the subject of gynæcology from the stand-point of the general practitioner, and it is for him, and not for the specialist, that he writes. The result is a book more practical than technical. The first chapter, which treats of "anatomical facts bearing on gynæcological practice," is filled with practical hints which have suggested themselves to the writer, and which are very interestingly interspersed among the necessary anatomical descriptions.

The pathology, differential diagnosis, and treatment of the various diseases are very satisfactorily given, and on the whole there is very little to object to. The author figures Sims' semi-prone position drawn from life fairly well as regards the patient, but lying in the middle of a couch in such a way as to render a satisfactory examination impossible. The book is neatly bound, but the plates are often poorly executed. Not a few of them have nothing but their antiquity to recommend them.

The Theory and Practice of Medicine. By FREDERICK T. ROBERTS, M. D., etc., etc. With Illustrations. Fifth American Edition. Philadelphia: P. Blakiston, Son & Co. 1884.

The present edition of Robert's Practice of Medicine is in a single octavo volume of 1000 pages. The work has been revised and enlarged by the incorporation of new material upon many of the subjects treated.

Especial attention has been devoted to the chapters upon diseases of the nervous system.

In one respect this edition is illustrative of the continued and rapid march of study and debate in the sphere with which it occupies itself. The author congratulates himself upon being able to lay before his readers the results of the discussions of the International Medical Congress of 1881, and the readers are already estimating the value and effect of the transactions of its successor, the International Congress at Copenhagen of 1884.

Medical Diagnosis with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. DACOSTA, M. D., LL. D., etc., etc. Illustrated with Engravings on Wood. Sixth Edition, Revised. Philadelphia: J. B. Lippincott & Co. 1884.

The appearance of the sixth edition of this valuable and popular hand-book of medical diagnosis is coincident with the twentieth anniversary of the first year of its publication. The volume combines those qualities which have been reflected in an eminent degree in the career of the author as at once a successful teacher and practitioner of medicine. It has been translated into German, and issued in Berlin, where its reception has been a flattering one, and a translation into Spanish is projected.

To the American student and practitioner Dr. DaCosta's book requires no further recommendation than the statement that the chapters have been revised, and new matter introduced, with additional wood-cuts, wherever the advances of recent investigations indicated this in order to place the present edition on a level with progress in medical knowledge.

— M. Charcot has been elected a member of the French Academy of Sciences in the place of the late Baron Cloquet.

Medical and Surgical Journal.

THURSDAY, OCTOBER 16, 1884.

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THE FIFTH VOLUME OF THE INDEX CATALOGUE.

THE author of an article on Cataloguing, in the *Library Journal*, commences his essay by a quotation from Thomas Carlyle: "A library without a catalogue is the most strange conceivable object; the worst catalogue that was ever drawn up by the hand of man is preferable to no catalogue at all;" and he closes by saying that the conviction seems to be increasing and deepening that libraries, if they are to fill their full measure of usefulness, must make their treasures accessible to the public. And he pertinently asks whether, if books are worth storing and preserving, with all the additional expense of library maintenance, it is not worth while to put a mere fraction of their whole cost into such a record of them as shall be permanently useful?

The affirmative answer to such a question which the authorities of the Surgeon-General's Office would give would evidently be an emphatic one, enforced by the production of its five magnificent volumes of the Index Catalogue. The fifth volume resembles its predecessors in size and appearance, and alphabetically extends from Flac. to Hearth. It contains in its 1055 pages 15,555 names of authors, representing 5755 volumes and 12,596 pamphlets. It also includes 8069 subject-titles of separate books and pamphlets, and 34,127 titles of articles in periodicals. Eleven pages are needed to contain the recent additions to the list of medical periodicals employed in the Index-Catalogue, most of these additions being newly established journals and recent reports and annuals.

The present volume, like its predecessors, affords an almost childlike pleasure to one who turns its pages with a love for the medical profession and an interest in its literature. One stumbles almost unawares upon the name of Garfield (where he is requested to see Guiteau), and glancing down the long list of writers on these subjects matters are recalled which have already most fortunately begun to slip from the memory. The amenities of literature, if one may venture to speak of them so, are also illustrated in the list, as the following title may show: AUTOPSIA *de Mr. Garfield practicanda por el doctor Longbranch.* [Sic.]

We imagine most men who have occasion to turn to the subject will be surprised to find that the index to articles descriptive of a fœtus in fœtu covers a little over a page and a half. The different editions of Galen, together with the Commentaries and Lives, fill up four pages, and the list will furnish ample entertainment to the bibliographer.

The connection of the Library with the army is brought to mind by the collection of blank forms of the Medical Department of the Army of Great Britain and the Reports on the topography of various forts with more or less familiar names.

As the value of a catalogue as a general work of reference depends upon the character of the library which it represents, it will certainly not detract from the value of the Index Catalogue to recall some observations of Dr. Billings on the comparative merits of the American library with the medical sections of the national libraries of England and France: —

"From a comparison of the catalogue of the medical library of the Surgeon-General's Office with the fasciculi of the catalogue printed by the British Museum in 1881–1882 I have found that on 1140 pages, containing about 34,000 titles, exclusive of cross-references, there were the titles of 657 books and 880 inaugural theses relating to medicine. Taking the corresponding portions of the Washington catalogue it is found that the British Museum has 262 medical books, 372 medical theses, and 118 different editions which are not in the Washington library, while, on the other hand, the Washington library has 285 books, 342 theses, and 88 different editions which are not in the British Museum. There are common to both libraries 277 books and 508 theses. The two libraries are, therefore, nearly equal as regards medical books, exclusive of medical journals, transactions, and reports, in which the Washington library is much the richer."

A similar comparison with the catalogue of the medical section of the Bibliothèque Nationale in Paris shows that the Washington library contains a greater amount of medical literature, and "also covers a wider field, representing better the medical literature of the world. Each library is, as might be expected, richer than its rivals in the literature of its own country, but the French library is comparatively poor in English and German, has almost nothing in American medical literature, while the English library is also poor in American literature, and comparatively weak in German medicine of the present century.

"The two great national libraries of London and Paris are supposed to be the largest collections of printed books in existence. They have been collected during a period of over three hundred years, and have practically had almost unlimited funds and opportunities."

We we may then feel not only that we have in the Index Catalogue an addition to our works of reference which any nation might be proud to have originated, but also that it is the only possible index that could properly represent American medical authors, and that from the character of the Library it comes nearer to being an exhaustive index of all that is valuable in the medical literature of the world than would any similar index and catalogue of any other existing library.

Another writer, in the same number of the *Library*

Journal from which we have already quoted, considers that it will be a chief glory of the nineteenth century that it has organized knowledge, so that the man of the future who will have more to learn will learn it more easily. The isolated facts are fast becoming types. Knowledge increases, but there is no longer confusion, and in this work of organization the librarian has his part. It is for him to classify and catalogue the records of ascertained knowledge, the literature of the whole past, and so to bring the books to readers and readers to books.

In this busy generation, when the hurried man grumbles that "all the time there is" is not enough for him, the librarian makes time for his fellow-mortals by saving it, for a minute saved is a minute gained. And this function of organizing, of indexing, of time-saving, and of thought-saving is associated peculiarly with the librarian of the nineteenth century, and for the medical profession it is associated peculiarly with the librarian of the Library of the Surgeon-General's Office of the United States army.

TWO CASES OF HUMAN ACTINOMYCOSIS.

ATTENTION has been drawn several times in these columns, editorially and otherwise, to a fungoid disease common to various animals — especially cattle — and man, to which the Germans have given the name of actinomycosis. In an editorial, September 11th last, we stated that the disease, although occasionally observed in cattle, had not to our knowledge been found in man in this country.

We now learn from Chicago that Dr. J. B. Murphy of that city has recently operated on two cases of human actinomycosis. One patient was a woman about thirty years of age, who had suffered for a number of months with a hard swelling at the angle of the jaw. The swelling had begun to extend down upon the neck. It was slightly tender, evinced slight fluctuation at one point, and was only to a limited degree movable; it was more or less fixed to the deep tissues. The swelling being opened, a watery, puriform fluid, containing minute bright yellow granules of the size of millet seeds flowed from it. These were at once suspected to be actinomyces, a suspicion promptly confirmed by the microscope. The patient had a number of decayed teeth opposite the point of the swelling on the jaw.

It was afterwards learned that she had, a few weeks before her visit to the doctor, lost by death a pet dog, which had died of starvation from inability to swallow owing to a large swelling connected with its lower jaw.

The operation for the relief of the patient consisted in laying open the swelling freely in all directions and carefully scraping out every particle of tissue that appeared to be abnormal. This and subsequent dressings were done with antiseptic precautions, and the wound healed promptly and completely. The operation seems to have been successful in exterminating the fungus, although too short a time has elapsed to make this positive.

The other patient was a lad, perhaps eighteen years of age, on the right side of whose lower jaw was a swelling of the size of a small walnut. The tumor was opposite a much decayed molar tooth. The patient said the swelling appeared several months before, was quite small at first, and had steadily increased in size. On puncturing the enlargement the yellow granules of the actinomyces were found. The tumor was then freely opened and scraped out. The operation was done only a few days ago, and the wound is not fully healed, but is reported as doing well.

THE SAFETY OF CANNED FOODS.

A SUFFICIENT number of instances of poisoning from the consumption of canned foods continue to be reported from time to time from various parts of the country in the daily press, and at times under cover of a certain degree of medical sanction, to seriously interfere with a very important American industry. We do not doubt that many of these reported cases are greatly exaggerated, and that in a still larger number, whether exaggerated or not, something else than canned food, which is now so readily accused, is really guilty of the effects observed.

It is one thing for a physician to pronounce a case to which he may be summoned one of poisoning, it is quite another and often far more difficult thing to designate the precise article at fault, and before incriminating any individual substance too much care cannot be exercised upon a thorough examination of all the premises —especially where such substance happens to be an article of daily consumption for which, in some parts of the country, it would be difficult if not impossible to provide an equally satisfactory substitute.

There are no food products, whether in the fresh or preserved form, which may not at times be met with in an unwholesome state, but we believe the preserved forms are really less frequently *poisonous* than the so-called fresh forms. Notwithstanding the vigilance of food inspectors in our large cities there can be no doubt that no inconsiderable quantities of "fresh" meats, fruits, and vegetables unfit for consumption escape detection and go into use among some classes of the population. The instances in Europe where large numbers of partakers of fresh meat from diseased animals have been seriously and fatally poisoned thereby are by no means few.

The average annual production of canned foods in the United States is now estimated to be upwards of 500,000,000 of tins, or about ten for every inhabitant of the country. It is not alone a great article of commerce at home and abroad, but, as we have remarked, furnishes a cheap, transportable, and indispensable food-supply in many places and under many circumstances. It is frequently not a question between fresh roast beef or mutton and canned meats, but between these latter and smoked or salted meats; not a question between fresh or canned vegetables and fruits, but between these latter and none at all. We

are not arguing that the canned articles are as nutritive or as toothsome as the fresh, but merely that with the exercise of ordinary care on the part of the consumer the likelihood of being *poisoned* by the former is certainly as small as by the latter. The appearance of the head of the can is generally a pretty safe index to the condition of the contents.

Among other testimony as to the quality and reliability of American canned foods we notice, very recently, that of Gen. J. P. Hawkins, chief of commissary, United States Army, who, during an extended experience of the use of such foods in a military department, never knew of a case of poisoning, nor could he learn of any from inquiry of the medical director.

A striking example of the keeping qualities of canned fish is found in the fact that the American canned salmon, which was awarded the first prize at the Fisheries Exhibition in Berlin, in 1880, was packed in 1875, and had previously been exhibited and took the first prize at the Centennial Exhibition in 1876. The same permanency may be found in many other articles when the can remains sound, and has not been accidentally or purposely tampered with.

Whilst desirous that those engaged in this important national industry should be protected from unjust suspicions and untenable charges it is, as we realize, no less necessary that the more numerous consumers should be protected from fraud or injury, but we imagine the laws of trade are still quite competent for that end without any medical or sanitary crusade.

MEDICAL NOTES.

— Steps have recently been taken in Boston towards the formation of an American society for psychical research, modeled somewhat upon the English society of similar name. At the first meeting Prof. W. F. Barrett, vice-president of the English society, gave an account of the work being done in that country in this line, and mentioned that since the operations of the society began there had been a marked decrease in the activity of the so-called spiritualists in London. The speaker said that in the investigation of cases of "mind-reading" the results showed generally that there was an unconscious physical guidance on the part of the person whose mind was being read, but that there were some cases in which this explanation was not admissible. The committee appointed for organization of a society have held a meeting in furtherance of their work.

— The effect of the embargo upon the importation of rags is likely to be badly felt by the consumers of white paper. The fact that rags are not arriving in this country has already decreased the supply of paper stock, as the mills are not making as much as formerly, and one very prominent paper manufacturer says that 84,000 of the 260,000 tons of rags used in the manufacture of paper in this country are imported, and as this import has ceased the effect upon trade is to put up the price of paper, lessen the working hours in mills, and cause a stagnation in trade unprecedented. Penny papers especially, will probably be affected.

— Dr. Macan, Master in Rotunda Hospital, Dublin, states that during the year sixteen cases of abortion were admitted to the hospital. The treatment was expectant as long as possible, and in none was the vagina plugged, but in case of excessive hæmorrhage before the cervix was sufficiently dilated to allow removal of the ovum the cervix was plugged with a tupelo tent, or dilated with Hegar's instrument, and the ovum removed. When any part of the ovum remained, causing putrid absorption or hæmorrhage, the uterus was well washed out with the corrosive sublimate solution, the curette used, and then the corrosive sublimate again, and in septic cases, in addition, an iodoform suppository was introduced.

— Prof. S. W. Gross, says the *Medical Bulletin* (August), brought a case of gumma of the breast before the class last season, which was interesting, both because of the infrequency of its occurrence, and of its resemblance to malignant disease. Gumma of other parts of the body are met with almost every day in hospital practice, but it is extremely uncommon to find this manifestation of the syphilitic poison on the female breast. The patient, who was twenty-eight years old, and appeared to be in good health, complained of trouble in the left breast. Examination showed a cake-like superficial tumor involving the skin and subcutaneous connective tissue. The skin over the tumor was livid in color, and the nipple was retracted into it. These signs apparently pointed to superficial scirrhus. But from the absence of pain and axillary involvement, as well as the history of a dissolute husband and three miscarriages, Professor Gross concluded that it was a gumma. The woman was put on the mixed specific treatment, and the tumor disappeared in a short time.

— Dr. Koch has recently received a call to the University of Leipsic as successor to the late Professor Cohnheim. It is said that he has declined this honorable call, and resolved to stay in Berlin. It is believed that he will soon be appointed professor of hygiene in Berlin University.

— A correspondent of the *Lancet*, writing of a Roman villa, bath-room, and other ancient remains recently discovered at Lincoln, says that the miners, in clearing away the soil immediately outside the villa, came upon a skull and some human bones, among which he found a tibia presenting a united fracture. He thinks that there is hardly a pathological museum in the United Kingdom which can boast of anything like this specimen of ancient surgery — a united fractured bone of an old Roman who lived, and certainly limped, seventeen or eighteen centuries ago.

CHICAGO.

— The new Presbyterian Hospital has been opened for the reception of patients. One wing only of the contemplated structure is completed; this will accommodate about eighty patients. Owing to lack of endowments of free beds the hospital at present only takes paying patients, but it is expected that before long it

will be possible to receive a number of free patients. The building is very complete in every particular, and in its sanitary arrangements is well-nigh perfect. Steam is used to heat the building, there being one or more steam coils in each room. The fresh air is admitted to each room independently by an opening through the outer wall, so arranged that in entering the room the air must first pass among the steam pipes and be warmed. The exit of foul air is effected through a fireplace and flue with which each room is provided. The laundry, while within the building, is disconnected from every other part of it, and can be reached only by going out of doors. The building is provided with a water elevator.

— The medical colleges have opened with their usual number of students. The Chicago College of Dental Surgery, which, with its present name and plan, is new, inaugurated its first full course as a dental college on the 1st inst. with a class of about forty. This institution was first known as the Chicago Dental Infirmary, and till this year has received as students only such gentlemen as had already received the degree of M. D., and of course it gave no instruction in Anatomy, Physiology, Materia Medica, or Chemistry. But the attendance was so small, and the number of ordinary dental students applying was so great, that it was last spring determined to change the scope of the organization and its name and make it in every sense a dental college. Its quarters at No. 6 Washington Street are ample, and its clinical material is greater than is necessary. Drs. Belfield, McArthur, and Copeland have been chosen to teach, respectively, Physiology, Chemistry, and Anatomy.

MEDICO-LEGAL NOTE.

— Dr. Nobiling, of Munich, has, according to the *British Medical Journal* (June 14th), recently described in the *Aerztliches Intelligenzblatt* the necropsies which he made a year or two since on the bodies of two suicides by hanging. The first case was that of a young man, aged twenty-four, short, thin, and sickly, who destroyed himself after a disappointment in love. He tied the two ends of a large cotton handkerchief, folded diagonally and not twisted into the form of a cord, and fixed them on to the latch of a door, put his head through the loop of the handkerchief, and then drew up his knees. The latch was only three feet seven inches from the ground, and the man was found quite dead, with his knees bent to a right angle, his shins almost touching the floor, against which the toes actually rested. The weight of his head and shoulders pressed the front of his neck downwards against the handkerchief, which did not touch the back of the neck at all. As the handkerchief had been folded very broad, no line of constriction was found on the front of the neck. The hyoid bone, with the root of the tongue and larynx, had been forcibly and firmly drawn upwards and backwards against the posterior wall of the pharynx, so that all access of air to the glottis was excluded. There were small points of subconjunctival, subpleural, and subpericardial hæmorrhage. What appeared most remarkable to Dr. Nobiling was that the otherwise healthy endocardium of all the chambers of the heart was thickly spotted with small points of extravasated blood. The lungs were very œdematous. There were evidences of old pachymeningitis. The second case was that of a very corpulent man, aged forty, subject to melancholia, who had mounted on a stool, attached the ends of a stout cord, made of a piece of vine branch strengthened by hempen twine, to the cross-piece of a high window, put his head through the loop, and kicked the stool from under him. He was found quite dead, with the tips of his toes far from the ground, and his thick neck completely constricted above the thyroid cartilage by the cord, which made a deep mark round the neck. So deep was this constriction that the muscles attached to the hyoid bone, the sterno-mastoids, and the superficial layer of the muscles at the back of the neck were all very deeply indented, and hæmorrhage had occurred into their substance. There was also much extravasation of blood into the connective tissue within the sheath of the great vessels of the neck, but the common carotids and the internal jugular vessels were uninjured. The larynx was pressed upwards and backwards against the back of the pharynx, the mucous membranes of the larynx, trachea, and bronchi were deeply congested, and there were circumscribed hæmorrhages under the right vocal cord, the cellular tissue beneath the pleura on both sides, and in the pulmonary tissue. Aortic stenosis, great hypertrophy of the heart, nutmeg liver, contracted kidneys, chronic gastro-adenitis, and colloid degeneration of the pancreas also existed.

Miscellany.

MR. J. NETTEN RADCLIFFE.

MR. J. NETTEN RADCLIFFE, lately deceased, was unquestionably one of the ablest of the staff of men attached to the Medical Department of the English Privy Council and of the Local Government Board. The annual reports of those bodies are the best monument to his learning, zeal, and industry in contributing to the progress of State Medicine. His former chief, Mr. John Simon, writes to the *Lancet* in regard to the character of Mr. Radcliffe's work as follows: —

"Among reports which he made on the subject of particular local outbreaks of disease investigated by him there are especially three which I count classical. (1.) The Report on the very remarkable Outbreak of Cholera at Theydon-Bois, near Epping, in 1865. (2.) The Report on the East London Cholera Epidemic of 1866, and its relation to the use of the East London Company's Supply of Water. (3.) The Report on the terrible Epidemic of Enteric Fever which prevailed in and about Marylebone in 1873, in consequence of a Dairy Company's Distribution of Infected Milk. These Reports ought to be familiarly known to every officer of health, not only for the tremendous significance of the lessons which they teach, but as examples to be studied and remembered of the minutely cautious and complete way in which local epidemics require to be investigated by any one who aspires to advise on them.

Equally classical in the literature of preventive medicine, though in another direction than the above, are the expositions which he made in matters of epidemiological history, more particularly in 1866 and 1875, with reference to the successive steps by which cholera had advanced from India and had been diffused to various countries of Europe; and in various late years with reference to the diffusions of Levantine plague. His acquaintance with the 'time and place' relations of epidemic and endemic diseases was unusually large and accurate, particularly in respect of cholera and plague, and of the therewith connected questions of traffic between places and countries. It was, I believe, quite unique; it was like the familiar knowledge which a Charing-cross policeman is supposed to have of the omnibuses which pass his beat; and in the distribution of the work of the Medical Department I used always to look to him as a specialist in that branch of information.

"In 1875, when, as you may remember, there had been considerable cholera alarms in Europe for the last year or two, and when an International Conference on Cholera had been held at Vienna, I found it desirable to reëxamine our scientific stand-point in relation to the opinions of other countries; and the occasion was also taken for Radcliffe to extend his cholera paper of 1866 into a report for the whole decennial period. For the guidance of European opinion on the question of Red Sea quarantine, and other such questions, the mass of evidence given in that report with regard to the many ways by which cholera, so often as it grows in India, tends to reach Europe, is, in my opinion, the most instructive document in existence; and the man who can resist that kind of evidence must be either an idiot or a quarantine employee. To the ordinary medical reader it might be too laborious to study the paper, but as a *pièce de résistance* for the English Government when it has to confer with other governments about their quarantine proposals the report is simply invaluable, and worth even the immense labor which Radcliffe bestowed on its compilation."

SANITARY CONDITION OF NICE AND THE RIVIERA.

THE following "declaration of the consuls residing at Nice, Cannes, and Menton," was made public at Nice the 16th of last September: —

Firstly. That the town of Nice and the neighboring winter resorts on the Mediterranean coast, owing to the excellence of their climate, and the careful precautions for the preservation of health, promptly and effectually taken by the municipal authorities, have entirely escaped the epidemic, and that the public health has never been in a more perfect condition.

Secondly. That the quarantine which had been enforced as a preventative measure at the western extremity of Nice, in the Var district, has ceased to exist since the 6th instant, which allows of travelers entering the town without having to undergo any formalities or being subject to any delay.

We therefore feel it a duty and a pleasure to declare publicly and formally, with a view to the general interest, and that our countrymen may be accurately informed of the real sanitary condition of these sunny regions, that the foreign colony who, on the return of the cold season, are wont to take up their winter quarters in these parts may, as usual, with safety come to Nice, Cannes, Menton, and, indeed, anywhere along the Mediterranean shore from Hyeres to San Remo. The consuls have accordingly signed the present declaration.

The above will have an interest for the medical advisers of that large class of our countrymen whose health or pleasure annually attracts them to these towns in Southern France or along the Italian Riviera. The drainage in most of these places is justly suspected, and we hope may not betray the confidence reposed by the foreign consuls in the good features of these localities.

ABSTRACT OF THE REPORT OF THE COMMISSIONER OF EDUCATION FOR 1882-83.

THE thirteenth annual Report of the Commissioner of Education, just issued, is fully equal to its predecessors in point of interest, in the importance of subjects discussed, their methodical arrangement and treatment, while the information presented is of much more recent date than that usually given in reports whose information is collected from such a vast territory and through so many instrumentalities, covering, as it does, the year closing June 30, 1883. In this respect the report under review has made a decided gain over its predecessors, made possible, we are informed, by the fact that a larger number than usual of educational systems and institutions have been able to bring their reports up to date.

Little space is given in the report to a statement of the general work of the office aside from the summary of educational data which is prepared annually, as anything like a full statement of such general work would require more space than the Commissioner has at his disposal.

The communications sent out numbered 30,745, and those received 67,875. The documents distributed numbered 323,592, and were usually mailed in separate packages. One document was asked for by as many as ten thousand persons. This distribution of documents has its influence upon many educational methods and appliances. The teachers' institutes have been much more freely supplied than before. Circulars and bulletins were sent to 406 institutes held in twenty-three different States. Seventy-eight of these teachers' gatherings in a single State were furnished these publications.

The following circulars of information have been printed and distributed since the enumeration in the previous report: No. 1, 1882. The Inception, Organization, and Management of Training Schools for Nurses. 28 pages. No. 2, 1882. Proceedings of the Department of Superintendence of the National Educational Association at its meeting at Washington, March 21–23, 1882. 112 pages. No. 3, 1882. The University of Bonn. 67 pages. No. 4, 1882. Industrial Art in Schools, by Charles G. Leland, of Philadelphia. 37 pages. No. 5, 1882. Maternal Schools in France. 14 pages. No. 6, 1882. Technical Instruction in France. 63 pages. No. 1, 1883. Legal Provisions Respecting the Examination and Licensing of Teachers. 46 pages. No. 2, 1883. Co-education of the Sexes in the Public Schools of the United States. 30 pages. No. 3, 1883. Proceedings of the Depart-

ment of Superintendence of the National Educational Association at its meeting at Washington, February 20–22, 1883. 81 pages. The following bulletins have also been issued: Instruction in Morals and Civil Government. 4 pages. National Pedagogic Congress of Spain. 4 pages. Natural Science in Secondary Schools. 9 pages. High Schools for Girls in Sweden. 6 pages. Comparative Statistics of Elementary, Secondary, and Superior Education in Sixty Principal Countries. Sheet. Planting Trees in School Grounds. 8 pages. In addition to these publications a special report of three hundred and nineteen pages on Industrial Education in the United States was prepared and printed in compliance with a resolution of the Senate. The number of copies of each circular or bulletin issued has been increased to supply the correspondents of the office, and several of those most in demand have been reprinted.

The American correspondents of the office at the head of systems or institutions of education furnishing the information contained in the report numbered 10,128, an increase for the year of 1354, and since 1872 of more than 7500. This system of voluntary statistical information, depending on co-laborers so widely scattered, is believed to be the most extensive of its kind in existence, and it is constantly improving in completeness and exactness. The blanks sent out by the office to its 10,000 correspondents and gratuitously filled and returned by them form the basis for the twenty-five tables presented in the appendix. The only return the office is able to make its friends for all this labor is to send them its publications, and hitherto the number allowed the office by Congress has not been sufficient to supply them all.

A CASE OF SCARLET FEVER IN A CANARY.

A supposed case of scarlet fever in a canary bird is reported in the *British Medical Journal* by Dr. F. Ogston as follows: —

"A few months ago, while attending a family in which scarlet fever had attacked two children, my attention was called to a cage containing four young canaries. I remarked that they seemed ill, as they were sitting moping on their perches, with their feathers ruffled up. The mother of the children said to me, 'Doctor, I think they have gotten the fever. The grandmother (who had undertaken the nursing of the children) gave them some bread which the children had been eating.' The children were then desquamating freely.

"Two days afterwards, when seeing the children, I found the canaries quite well and lively, all but one, which drooped more than before, and now could hardly stand. On examining the bird its skin, under the feathers, was of a bright scarlet color, unlike that of the others, which was of a yellow color, like old parchment. It died the following day, after making efforts to swallow as if its throat had been painful and swollen.

"On inquiring why this one should have suffered so much, and the others so slightly, I was told that it had eaten greedily of the bread left by the children, which the others had hardly touched, and that it had pecked away some of the loose epidermis from the lips of one of the children.

"It certainly seemed to me that the bird had scarlet fever, and it at least should give us the caution that our domestic pets may not only spread this disease by conveying the infected epidermal scales on their fur or feathers, but also by taking infection from their owners, and directly infecting individuals of the human species in their turn."

DYSTOCIA FROM COILING OF THE CORD ABOUT THE NECK OF THE FŒTUS.

Dr. Rachel in the September number of the American *Journal of Obstetrics*, details five cases of this complication occurring in his own practice, and gives some reflections upon its occurrence and treatment. He cites a report on the subject made to the Obstetrical Society of Edinburgh, January, 1883, giving the means for diagnosis as follows: —

"(1.) Retraction of the fœtal head during the pains, with sufficient uterine action and a roomy pelvis.

"(2.) Gradual cessation or long abeyance of the pains; and

"(3) Insufficient head flexion, followed by over-rotation of the occiput; all pointed to coiling of the cord round the child's neck. The second factor above stated he believed to be the most important.

"For diagnosis of this condition when the head was in the pelvis, he held that it could be made out by digital examination when the pelvis was roomy. If he suspected its occurrence in the first stage he would employ sedatives; in the second stage he would hasten the labor in the usual way, or cut the cord with a pair of probe-pointed scissors, and then employ forceps."

The writer joins issue with the statement of the first point; it should be just the reverse, for the sentence as it stands applies to the normal conditions of labor, the head in normal labor, it is almost superfluous to mention, being retracted somewhat during a pain while it descends on its cessation by the force of gravity. This advance of the child during the pain and retraction when the pain ceased was noticeable in every one of Dr. Rachel's five cases, and is in accord with Cazeaux's observations.

Regarding the degree of embarrassment from a coiled cord, Dr. Rachel says that his measurements of the circumference of the neck in every child he has delivered for the past year give as the lowest figure six inches and the highest a little over eight inches. He at the same time measured the distance from the umbilicus to the side of the neck, and found that it averages seven inches and a half, the lowest figure being six and a half and the highest a little over eight and a half inches. Taking the lowest figures found, a threefold circle — which in reality requires, in face presentations, only two and a half circumferences —

Would give	15 inches.
Length from umbilicus to side of neck . .	6½ inches.
	21½ inches.

The remaining portion of the cord from the neck to the placenta is not taken in account, and be it ever so short, it would still add several inches to the calculated figure. He thinks that even the tightest constriction around the neck, coupled with the strongest traction short of rupture of the cord, would be unable to reduce the number of inches by one half, that is, to eleven inches. In one of the writer's cases he gives the following figures: —

From umbilicus to neck	8 inches.
Two full coils	15 inches.
Together	23 inches.

which leaves for the length of cord from neck to placenta: $29\frac{1}{2}—23=6\frac{1}{2}$ inches. This would about correspond to the distance from the vulva to the placenta, which was situated anteriorly to the left of the median line.

In another case the figures were:

From umbilicus to neck	$6\frac{1}{2}$ inches.
One full circle	6 inches.
Together	$12\frac{1}{2}$ inches.

which would leave for the length of cord from neck to placenta: $16\frac{3}{4}—12\frac{1}{2}=4\frac{1}{4}$ inches.

The shortest cord ever measured (Cazeaux) was two inches long, and it was torn just before the expulsion of the child; but, of course, in this case the cord went directly from the umbilicus to the placenta. The shortest cord measured by the writer was ten inches, and there being no coil about the neck it gave little convenience during labor.

The writer's conclusions are summarized as follows:

Diagnosis. 1. Descent of the head during the pains and retraction during the intervals.

2. Insufficient head flexion and over-rotation of the occiput.

3. Variability of the position of the head within narrow limits.

4. Distressing pain at the seat of the placenta.

5. Discharge of some blood immediately after each pain.

If rigid perinæum, dorsal displacement of an arm, or head and arm presentation can be excluded the first symptom, especially when combined with some or all others given, point to true or accidental shortening of the cord.

Treatment. 1. Anæsthetization of the patient.

2. Extraction of the head by the forceps and division of the cord to allow the delivery of the body. Or, in extreme cases,

3. Division of the cord within the vagina, followed by the application of the forceps.

The early division of the cord may be urgently required to save the life of the child, as is illustrated by Dr. Lusk's case, and by a case cited by Cazeaux, where it was delayed two hours after the birth of the head. It also militates against two other formidable accidents, namely, inversion of the uterus and flooding.

INTRA-UTERINE THERAPEUTICS.

DR. THOMAS MORE MADDEN contributes an article on the above subject to the *Medical Press* (September 24th) emphasizing the importance of this method of treatment. His statement will, perhaps, cause some surprise that among 3800 patients under observation in the gynæcological department of the Mater Misericordiæ Hospital during the last six years, including almost every variety of disease peculiar to women, intra-uterine exploration or treatment was found necessary in about thirty per cent., and was resorted to in them when not specially contra-indicated by pregnancy or pelvic cellulitis.

The importance of adequate dilatation is emphasized, and laminaria bougies are considered, on the whole, the best agent for this purpose. Before making applications to the endometrium that surface must be prepared (if not found at the period of post-menstrual denudation) by scraping either by a dull wire curette, or, as the writer prefers, by his intra-uterine scoop, which he considers more effective in removing the granular, softened, or diseased mucous membrane so as to expose the true inner surface of the uterus to the medicaments. The local depletion of congested or hypertrophied parts, especially in cases of endometritis, is also of value.

The most active of all the various agents employed for intra-uterine medication is fuming nitric acid, introduced into modern gynæcological practice by Dr. Kidd in the Coombe Hospital, and subsequently employed by Dr. Atthill in the Rotunda, and by Dr. Madden in the Mater Misericordiæ Hospital, Dublin, long before it was thus applied elsewhere. For the intra-uterine use of nitric acid it is necessary that the os uteri should be dilated and exposed to view, the vaginal wall properly protected from injury with the acid, and the uterine wall drawn down to the vulva. For this purpose he has designed and uses a uterine tenaculum, shown, which can be set at any angle, and instantly released from its firm hold on the cervix by merely turning the screw set in the handle. In this way the uterus may be easily swabbed out with strong nitric acid, the whole charge of which is thus expended on the endo-uterine surface so as to avoid the risk of injuring the vaginal walls or external parts, although, as an additional precaution, these should be well smeared over with vaseline beforehand. Immediately after the application the uterus should be thoroughly washed out until no trace of acid is discoverable in the returning water; and finally, if any pain is complained of, a morphia suppository should be introduced. When thus employed nitric acid may generally be as safely and effectively used in those cases of intra-uterine disease in which its application is really called for, and to which it should be carefully restricted.

Solid nitrate of silver was formerly in some vogue as an intra-uterine application, a small bit of it being occasionally introduced and left in utero in cases of subinvolution, and even endometritis, even without any preliminary dilatation of the os internum. This practice, however, is liable to give rise to local inflammation or metro-peritonitis. Iodoform, in suppositories containing from seven to ten grains, will be found useful, after more active treatment, in some instances of congestive hypertrophy of the uterus. Carbolic acid, and above all iodized phenol, as well as the various other preparations of iodine, are, however, probably the most generally useful of all intra-uterine applications, and of these Churchill's tincture, or a solution of iodine in glycerine of the same strength as the ordinary tincture, may be locally applied freely with advantage in many cases of congestive hypertrophy, and also in some instances of intra-uterine tumors in which operative treatment will not be submitted to or is not advisable. Of the injection of tincture of iodine through the undilated canal, which has been recently again recommended for the same purpose, Dr. More Madden speaks with some caution from his own experience of its use.

Regarding the removal of intra-uterine growths the writer is quite enthusiastic. In the past few years he has removed such tumors from the uterus in forty-two cases. Of these four were intra-mural, eighteen were

submucous fibroids, and twenty were either pedunculated tumors or intra-uterine polypi. In one case six of these tumors were removed from the uterus at one operation, and in another instance two large tumors which had, apparently, coalesced from opposite sides of the womb were taken away. And finally in three of these cases the patients died, and in thirty-nine they recovered.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 4, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	609	255	27.84	13.44	13.60	2.08	5.96
Philadelphia	927,995	347	137	18.27	11.60	5.80	5.80	3.19
Brooklyn	644,526	271	135	29.97	10.36	18.13	1.11	5.55
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	211	103	29.61	13.63	12.22	4.23	2.82
Baltimore	408,520	154	66	22.40	10.40	10.40	1.30	9.10
St. Louis	400,000	138	57	26.28	7.30	9.49	2.92	4.38
Cincinnati	272,400	102	43	16.66	13.72	12.74	—	1.46
New Orleans	234,000	115	29	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	90	34	22.22	12.22	14.44	5.55	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	76	53	23.76	6.50	21.12	2.64	—
Providence	119,405	37	17	24.30	8.10	8.10	2.70	5.40
New Haven	62,882	20	7	20.00	20.00	5.00	15.00	—
Nashville	54,400	30	13	56.66	16.66	13.33	10.00	20.00
Charleston	52,286	43	21	25.66	4.66	6.99	4.66	6.99
Lowell	71,447	35	14	54.34	8.58	37.18	8.58	—
Worcester	69,442	25	11	36.00	4.00	12.00	16.00	8.00
Fall River	62,674	24	17	37.44	4.16	33.28	—	—
Cambridge	60,995	21	10	9.52	23.80	—	—	—
Lawrence	45,516	20	8	10.00	25.00	—	—	—
Lynn	44,895	6	3	—	16.66	—	—	—
Springfield	38,090	11	4	27.27	9.09	18.18	—	9.09
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	17	8	41.16	16.66	29.40	5.88	—
New Bedford	30,144	20	11	5.00	20.00	5.00	—	—
Salem	29,503	10	2	10.00	10.00	—	—	10.00
Chelsea	24,347	9	5	44.44	22.22	22.22	—	22.22
Taunton	22,693	—	—	—	—	—	—	—
Gloucester	21,400	8	3	25.00	12.50	12.50	12.50	—
Haverhill	20,905	9	5	11.11	11.11	—	11.11	—
Newton	19,421	6	4	50.00	33.33	33.33	—	—
Brockton	18,323	9	6	44.44	11.11	11.11	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	7	1	—	28.56	—	—	—
Fitchburg	13,433	9	8	11.11	—	11.11	—	—
Ninety-two Massachusetts towns	419,868	57	24	22.75	21.00	8.75	1.75	—

Deaths reported 2546 (no reports from Chicago, Buffalo, and Pittsburg): under five years of age, 1104; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 631, diarrhœal diseases 307, consumption 294, lung diseases 184, diphtheria and croup 113, typhoid fever 79, malarial fevers 42, whooping-cough 38, scarlet fever 23, cerebro-spinal meningitis 15, erysipelas seven, measles six, puerperal fever one. From *malarial fevers*, New York 17, St. Louis 11, Brooklyn seven, Nashville three, Charleston two, Cincinnati and West Springfield one each. From *whooping-cough*, New York 19, Brooklyn and Boston six each, Philadelphia, Baltimore, District of Columbia, Nashville, Cambridge, Brockton, and Milbury one each. From *scarlet fever*, Boston five, Philadelphia three, Baltimore, St. Louis, Providence, and Woburn two each, Brooklyn, Cincinnati, District of Columbia, Lowell, Cambridge, Lawrence, and Newton one each. From *cerebro-spinal meningitis*, Philadelphia four, New York and Lowell two each, Boston, Baltimore, Fall River, Lawrence, Holyoke, Woburn, and Milbury one each. From *erysipelas* Philadelphia three, New York two, Providence one. From *measles*, New York five, Philadelphia one.

Two cases of small-pox were reported in St. Louis; typhoid fever 59, scarlet fever 62, diphtheria 31, and measles one in Boston.

In 109 cities and towns of Massachusetts, with an estimated population of 1,412,907 (estimated population of the State 1,955,104), the total death-rate for the week was 18.58 against 23.01 and 20.64 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending September 20th, the death-rate was 21.0. Deaths reported 3518: infants under one year of age 1051; acute diseases of the respiratory organs (London) 159, diarrhœal diseases 413, fever 91, scarlet fever 82, whooping-cough 52, measles 41, diphtheria 29, small-pox (London six, Sheffield one) seven. The death-rates ranged from 14.9 in Portsmouth to 29.9 in Leicester; Birmingham 25.4; Blackburn 28.3; Bradford 21.9; Leeds 21.8; Liverpool 26.8; London 17.1; Manchester 23.4; Nottingham 22.1; Sheffield 27.6; Sunderland 25.8. In Edinburgh 19.2; Glasgow 23.7; Dublin 26.6.

For the week ending September 20th, in the Swiss cities, there were 29 deaths from consumption, diarrhœal diseases 20, lung diseases 16, typhoid fever five, diphtheria and croup three, whooping-cough two, small-pox, scarlet fever, and erysipelas each one. The death-rates were, at Geneva 12.2; Zurich 9.8; Basle 10.8; Berne 16.7.

The meteorological record for the week ending October 4th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date. Sept.–Oct., 1884.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in inches.
Sun., 28	29.839	71	81	60	90	62	90	81	SW	SW	SW	10	7	7	O	C	O	—	—
Mon., 29	29.898	72	83	66	81	46	73	67	W	W	NW	13	9	10	C	C	F	—	—
Tues., 30	30.159	65	73	61	72	57	76	68	W	SW	SW	3	4	5	O	O	O	—	—
Wed., 1	30.135	70	83	61	86	47	50	61	SW	W	NW	9	12	14	O	C	O	—	—
Thurs., 2	30.372	54	64	52	55	67	60	61	N	E	SE	9	8	7	O	O	O	—	—
Fri., 3	30.315	51	55	48	60	58	79	66	E	SE	SE	20	4	12	O	O	R	—	—
Sat., 4	29.811	70	80	49	89	61	88	79	W	W	W	16	18	19	F	O	R	—	—
Mean, the Week.	30.076	64.6	82.7	56.7				68.9										16.25	0.43

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY FROM OCTOBER 4, 1884, TO OCTOBER 10, 1884.

CLEMENTS, B. A., major and surgeon. In addition to present duties to take charge of the office of the Medical Director of the Department during the temporary absence of that officer. Paragraph 1, S. O. 195, Department of Missouri, September 29, 1884.

HAPPERSETT, JOHN C. G., major and surgeon. Will be relieved from duty in Department of the East, and ordered for duty at Willet's Point, New York.

WOODRUFF, EZRA, captain and assistant surgeon. Granted leave of absence for four months. S. O. 235, A. G. O., October 7, 1884.

CRONKHITE, HENRY M., captain and assistant surgeon. Assigned to duty as post surgeon, Fort Reno, Ind. Ter. S. O. 197, Department of Missouri, October 2, 1884.

CRAMPTON, L. W., captain and assistant surgeon. Granted leave of absence for one month and ten days. S. O. 60, headquarters Division of the Atlantic, October 2, 1884.

POWELL, J. L., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability.

SPENCER, WM. G., captain and assistant surgeon. Granted leave of absence for one month. S. O. 204, headquarters Department of the East, October 8, 1884.

MCCREERY, GEO., first lieutenant and assistant surgeon. Assigned to duty at Fort Meade, D. T. S. O. 115, headquarters Department of Dakota, October 6, 1884.

TAYLOR, A. W., first lieutenant and assistant surgeon. Assigned to duty at Fort Omaha, Neb. Paragraph 3, S. O. 87, headquarters Department of the Platte, October 3, 1884.

BLACK, C. S., first lieutenant and assistant surgeon. Granted leave of absence for fifteen days to take effect this date. Paragraph 3, S. O. 131, Department of Texas, September 29, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING OCTOBER 11, 1884.

LIPPINCOTT, G. C., passed assistant surgeon. Granted sick leave. October 4, 1884.

WHITING, ROBERT, passed assistant surgeon. To the Naval Hospital, New York. October 6, 1884.

BROWN, S. A., passed assistant surgeon. Resignation accepted. October 7, 1884.

BRUSH, GEORGE R., surgeon. Detached from the Vandalia and placed on waiting orders. October 8, 1884.

CRAIG, THOS. C., passed assistant surgeon. Detached from the Vandalia and placed on waiting orders. October 8, 1884.

AYERS, JOS. G. Leave of absence for one month. October 10, 1884.

OBERLY, A. S, surgeon. To the Naval Hospital, Portsmouth, N. H. October 10, 1884.

CLEBORNE, C. J., medical inspector. Detached from duty at Portsmouth, N. H., and placed on waiting orders. October 10, 1884.

STEELE, JNO. W., passed assistant surgeon. Detached from the Brooklyn and placed on waiting orders. October 10, 1884.

BOYD, JNO. C., passed assistant surgeon. To duty at Navy Yard, Washington, D. C. October 10, 1884.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, JULY 1, 1884, TO SEPTEMBER 30, 1884.

BAILHACHE, P. H., surgeon. To proceed to Delaware Breakwater Quarantine Station as inspector. September 10, 1884.

To investigate reported pollution of Potomac River water supply. September 20, 1884.

MILLER, T. W., surgeon. Granted leave of absence for fourteen days. July 10, 1884.

Detailed as president Board of Examiners. September 2, 1884.

WYMAN, WALTER, surgeon. Detailed as member Board of Examiners. September 2, 1884.

LONG, W. H., surgeon. Granted leave of absence for twenty days. July 30, 1884.

PURVIANCE, GEORGE, surgeon. Detailed as recorder Board of Examiners. September 2, 1884.

STONER, G. W., passed assistant surgeon. To proceed to Lewes, Del. (Delaware Breakwater), as inspector. July 25, 1884.

To act as quarantine officer at Delaware Breakwater. July 31, 1884.

FISHER, J. C., passed assistant surgeon. Granted leave of absence for thirty days. August 21, 1884.

GOLDSBOROUGH, C. B., passed assistant surgeon. Granted leave of absence for thirty days. July 12, 1884. Leave of absence extended thirty days on surgeon's certificate of disability. August 11, 1884. Leave of absence extended thirty days without pay. September 11, 1884.

HEATH, W. H., passed assistant surgeon. Granted leave of absence for thirty days. September 8, 1884.

GUITÉRAS, JOHN, passed assistant surgeon. Granted leave of absence for thirty days. September 24, 1884.

BANKS, C. E., passed assistant surgeon. Granted leave of absence for thirty days. August 27, 1884.

BENNETT, P. H., assistant surgeon. To proceed to Buffalo, N. Y., for temporary duty. September 19, 1884.

GLENNAN, A. H., assistant surgeon. To proceed to Mobile, Ala., for temporary duty. July 7, 1884.

RESIGNATION.

FISHER, J. C., passed assistant surgeon. Resignation accepted by the Secretary of the Treasury, to take effect September 30, 1884. August 21, 1884.

DIED, — At Shelburne, Mass., October 4, 1884, Charles Morris Duncan, M. D., M. M. S. S, aged seventy-six years.

Original Articles.

WEIGHT AS AN INDICATION OF THE CHARACTER OF RISKS FOR LIFE INSURANCE.[1]

BY JOEL SEAVERNS, M. D., OF ROXBURY.

THE Royal Arcanum, a beneficiary organization, which has to-day nearly 50,000 members, in all the States of the Union except the Gulf States, and has paid out since January, 1868, over $3,000,000 in life insurance to the families of its deceased members, has among its records up to March 1, 1884, details of the deaths of 974 men between the ages of twenty-one and sixty. These details include, together with the family and personal history of the individuals, statements of their age, occupation, height, weight, rate of pulse and respiration, results of auscultation and percussion of chest, and an examination of the renal secretion, certified to by a medical examiner on their entrance to the Society. At their deaths is added to these facts a certificate signed by the attending physician, giving the duration of the fatal illness, its supposed cause, symptoms, and diagnosis, and the results of the autopsy if one is held.

From this store-house of facts, to which I have been allowed access, many important generalizations may be drawn, bearing upon the selection of lives for life insurance. On only one point to-day, that of weight, and its relation to height, I address you.

You are all aware that for life insurance purposes tables have been constructed giving what is considered the natural standard of weight and height. These tables vary but little in different works on this subject, and that which I shall refer to to-day is embodied in the tables on page 386.

The general directions in companies and societies are that while this proportion is the natural one, a variation of twenty per cent. from it in either direction is not to be deemed a cause for rejection. I am inclined to think that as regards the candidates of light weights (those whose weight is below the standard) less latitude should be allowed, and that a variation of even fifteen per cent. in that direction makes the risk hazardous, and that every applicant whose weight is materially below the standard, even ten to fifteen per cent., should be examined with the utmost care, not only to ascertain whether he has actually at that time any *disease*, but whether there may not be some tendency to disease, some weakened, malformed, or imperfectly developed organ, some functional ill performance of the vital processes of digestion, assimilation, or absorption, which if conditions of life should be unfavorable may prove to be the starting point of constitutional disease.

Men are thin for various reasons: some because in their families is a hereditary tendency to be so; some because they have diseased lungs, heart, or digestive organs; some because they have recently been sick or are over-worked, or have too much anxiety and care, or are ill fed; and the examiner should in each instance gravely scrutinize the problem to see what is in *that* case the special cause of this effect, and whether it may not be a cause that threatens to shorten a man's years, or at least an influence, which shows in what direction to look for future illness or death. And thus, for instance, if there has been in the family history any case of hereditary disease, — especially of constitutional wasting disease, — or if there has been in the personal history any of those symptoms or diseases that so often precede tuberculosis, such as impaired digestion, hæmorrhoidal tumors, fistulas, etc., and the applicant is at what may be called the consumptive age (under thirty-five or forty years old), he should be unhesitatingly *rejected*, as one who is not likely to live out his estimated expectancy.

With reference to this question I have made an examination of these 974 deaths with this showing: Amongst them were 138 men, who at their admission were fifteen per cent. or more below the standard of weight that we have referred to, and of this 138 eighty-five, or about sixty-two per cent., died of chronic disease, seven from accident or suicide, and only forty-six of acute diseases. Of the eighty-five chronic cases, forty-two were from phthisis, tabes mesenterica, or pulmonary hæmorrhage; seven died of organic disease of the brain or medulla, caries of the vertebræ, progressive muscular atrophy, and general paralysis of the insane; six died from cancer; three from diseases of the liver; nine from urinary diseases (five of Bright's disease, two from diabetes mellitus, one from chronic cystitis and abscess of the kidneys, and one of stone in the bladder); five died of organic disease of the heart; one of pernicious anæmia, and one of "general debility." The acute cases included pneumonia and other lung diseases, typhoid fever, and diseases of the digestive organs.

Ninety-one of these men were under forty years of age when admitted, thirty between forty and fifty, and only seventeen more than fifty.

Twenty-two died in less than a year after admission, twenty-nine in between one and two years, thirty-four in between two and three years, thirty-six in between three and four years, thirteen in between four and five years, and but four lived more than five years. The average duration of their membership was about thirty-one months.

Now of these 138 only thirty-three were twenty per cent. below the normal standard, 105 being in that border-land between what is usually considered safe and the line which I claim should be the dividing boundary; twenty-four of the thirty-three lightest ones were cases of chronic disease, thirteen being of phthisis.

Only nine were more than twenty-five per cent. below the standard, and all but two of these died of some organic disease, four from phthisis.

This is, in brief, a summary of the deaths of such of the 974 deceased members as were at the time of their admission fifteen per cent. or more *below* the usual weight, and in order that the results may be shown more clearly to you I have drawn them up in tabular form and printed them, that you may at a single glance see how extraordinarily prone to constitutional disease are such candidates. And I feel confident that the table will prove conclusively that such risks ought not to be accepted in life insurance.

Let us now reverse the picture. Among the 974 deaths were those of 122 members who, on joining the Society, were fifteen per cent. or more *above* the weight assumed to be the normal one.

Of these, leaving out fifteen who died of casualties and five who committed suicide, fifty-six, or about forty-

[1] Read before the Massachusetts Medical Society, June 11, 1884, and recommended for publication.

LIST OF 138 DEATHS AMONG PERSONS WHO WEIGHED FIFTEEN PER CENT. OR MORE BELOW THE NORMAL STANDARD.

Height. Feet, Inches.	Standard Weight. Pounds.	Fifteen Per Cent. less.	Twenty Per Cent. less.
		Pounds.	Pounds.
5 0	120	102	96
5 1	124	105	99
5 2	128	108½	102
5 3	132	112	106
5 4	136	116	109
5 5	140	119	112
5 6	144	122	115
5 7	150	127	120
5 8	156	133	125
5 9	162	138	130
5 10	168	143	135
5 11	174	148	140
6 0	180	153	144

Number.	Age.	Height, Feet and Inches.	Weight, Lbs.	Lived, Months.	Cause of Death.
21	56	5 6½	121	7	Abscess of Liver.
27	38	5 10	136	3½	Marasmus.
33	33	5 10	136	5½	Acute Bronchitis.
34	28	5 8	127	4	Brain.
36	28	5 9½	130	11	Melancholia (Suicide).
37	36	5 9½	140	11½	Ulceration of Bowels.
46	29	5 9	130	4	Cholera Morbus.
58	43	5 10	135	21	Diabetes Mellitus.
75	34	5 10	135	17	Chronic Laryngitis.
89	24	5 9	128	9	Phthisis.
104	33	5 9	122	26	Tuberculosis of Intestines
105	31	5 8	125	20	Phthisis.
118	21	5 8	125	9	Typhoid.
122	36	6 0½	136	13	Organic Disease of Medulla.
144	42	6 4½	148	28	Congestion of Lungs.
154	29	5 6½	118	14	Pyæmia.
160	26	5 10	130	6	Typhoid Fever.
166	43	5 11	145	23	Bright's Disease.
178	31	5 10	123	21	Ulceration of Bowels.
193	47	5 10	140	21	Pneumonia.
195	42	6 2½	155	8½	Pneumonia.
201	54	5 9	135	11	Pneumonia.
211	28	5 8	120	11	Pneumonia.
215	23	5 10	140	28	Pneumonia.
220	48	5 10½	145	33	Heart (Organic).
230	35	5 11½	125	29	Phthisis.
239	32	6 0	148	25	Peritonitis.
249	31	5 10	140	19	Phthisis.
253	35	5 8	125	31	Cystitis.
254	22	5 10	120	35	Ulceration of Bowels.
265	51	5 9	120	26	Rheumatism of Heart.
270	31	5 5	116	21	Empyema.
274	24	6 0	152	29	Cancer.
282	34	5 9½	135	40	Pneumonia.
286	40	5 7	125	3	Asthma and Nervous Exhaustion.
288	42	5 8	125	3	Dysentery.
293	43	5 9½	136	42	Cancer.
305	46	5 9	135	38	Disease of Liver.
310	35	5 10	136	7	Typhoid Fever.
311	27	5 9	135	29	Pulmonary Hæmorrhage.
317	53	6 0	150	23	Pernicious Anæmia.
320	27	5 9¾	130	40	Phthisis.
378	32	5 7	122	30	Phthisis.
381	31	5 8	133	33	Cancer.
383	24	5 6	115	8	Typhoid.
386	25	6 0	157	33	Phthisis.
391	24	6 2	150	35	Phthisis.
394	58	5 4½	115	43	Bright's Disease.
398	32	5 8½	135	37	Phthisis.
401	22	5 10½	132	22	Phthisis.
409	56	5 8½	130	7½	Drowned.
414	46	5 10½	140	38	Accident.
421	22	5 10½	130	52	Phthisis.
425	50	5 8½	128	17 dys.	Cerebral Congestion.
429	29	6 0	150	38	Typhoid Fever.
430	32	5 9½	140	22	Typhoid Fever.
436	29	5 11	145	48	Phthisis.
438	44	5 9	135	30	Chronic Diarrhœa.
440	30	6 1½	156	13	Otitis Interna, etc.
443	22	5 7	116	25	Phthisis.
445	39	5 6	120	34	Phthisis.
451	33	5 8½	134	22	Gastritis.
453	27	5 7	121	40	Bronchitis.
461	40	5 10	139	51	Pneumonia.
462	28	5 6	120	35	Cerebro-Spinal Meningitis.
471	41	5 4	115	16	Bright's Disease.
474	48	5 11	145	32	Ulceration and Perforation of Bowels.
475	25	5 10	135	35	Typhoid Fever.
481	34	5 8	130	43	Phthisis.
487	39	5 4½	115	23	Pneumonia.
493	33	6 0	150	40	Phthisis.
502	42	6 0	145	42	Psoas Abscess, etc.
510	58	5 10	135	59	Phthisis.
537	49	5 10	135	58	Carbuncle.
552	52	5 10½	135	48	Cancer.
555	38	5 6¾	119	42	Cerebro-Spinal Meningitis.
556	31	5 6	120	28	Phthisis.
569	34	5 11½	150	15	Valvular Disease of Heart.
595	52	6 0	150	47	Pneumonia.
606	28	5 10	130	32	Chronic Gastritis.
612	40	6 1	150	43	Phthisis.
616	44	5 8	127	32	Bright's Disease.
619	22	5 10	140	45	Phthisis.
621	54	6 0	145	30	General Debility.
625	48	5 9	125	48	Intussusception.
628	31	5 6	120	20	Phthisis.
639	50	5 8	125	39	Pneumonia.
644	49	5 11½	145	59	Phthisis following Pneumonia.
653	23	5 10	134	56	Catarrho-Malarial Fever.
664	49	5 9	135	9	Diabetes Mellitus.
666	34	5 10½	144	44	Phthisis.
690	37	5 8½	135	55	Phthisis.
696	24	5 9½	136	18	Cancer.
699	25	5 6	120	37	Phthisis.
703	27	5 10½	126	27	Phthisis.
707	42	5 6	120	53	Typhoid Pneumonia.
709	35	5 8	130	43	Stone in Bladder.
713	24	5 10	138	24	Phthisis.
716	42	5 10	140	57	Disease of Lungs and Heart, Chronic.
719	27	5 10	135	28	Phthisis.
722	23	5 10	140	19	Measles.
730	28	5 10	130	15	Phthisis.
762	51	5 9½	125	29	Typhoid Pneumonia.
769	35	5 9	135	48	Pulmonary Hæmorrhage, Phthisis.
773	40	5 8½	125	57	Softening of Brain.
779	21	5 3	110	18	Phthisis.
780	51	5 8½	135	16	Apoplexy.
784	38	5 10½	145	40	Congestive Chill.
789	32	6 0	150	35	Typhoid.
790	31	6 0½	150	41	Bright's.
791	35	5 11	136	43	Phthisis.
792	59	5 6	122	41	Cerebral Hæmorrhage.
797	22	5 10½	128	23	Phthisis.
801	28	5 10	135	31	Marasmus.
807	32	5 11	127	47	Phthisis.
812	38	5 10	140	45	Softening of Liver.
816	47	5 10	130	57	Progressive Muscular Atrophy.
819	34	5 7½	125	7½	Typhoid.
828	28	5 11½	143	48	Phthisis.
839	66	5 9	135	32	Paralysis of Heart.
842	50	5 8½	130	44	General Paralysis of Insane.
846	33	5 10	140	10	Caries of Spine.
860	23	5 11½	148	46	Inflammation of Brain, Acute.
874	22	5 10½	140	44	Typhilitis.
898	48	5 11	147	34	Apoplexy.
902	49	5 10	125	31	Congestion of Liver, Acute.
903	28	5 11	145	52	Casualty.
920	34	6 0	143	14	Pneumonia.
922	38	5 10	135	31	Pleuro-Pneumonia.
923	43	6 0	145	42	Pneumonia.
929	28	5 10	135	2	Suicide.
937	31	4 11	98	69	Drowned.
940	25	6 0	145	56	Phthisis.
944	22	5 10	140	19	Pneumonia.
945	50	6 0	150	66	Cancer.
955	36	5 9½	125	65	Drowned.
960	28	5 9	135	62	Typhoid.
972	21	5 5½	111	40	Paralysis of Heart.

LIST OF 122 DEATHS AMONG PERSONS WHO WERE MORE THAN FIFTEEN PER CENT. IN EXCESS OF THE NORMAL STANDARD WEIGHT.

Height, Feet and Inches.	Standard Weight Pounds.	Fifteen Per Cent. Excess. Pounds.	Twenty-five Per Cent. Excess. Pounds.
5 0	120	138	150
5 1	124	142½	155
5 2	128	147	160
5 3	132	152	165
5 4	136	156	170
5 5	140	161	175
5 6	144	166	180
5 7	150	172	187½
5 8	156	178	195
5 9	162	186	203½
5 10	168	193	210
5 11	174	200	218
6 0	180	207	225

Number.	Age.	Height, Feet and Inches.	Weight, Lbs.	Lived, Months.	Cause of Death.
2	26	5 11	245	3	Brain (Congestion).
6	57	5 6	175	7	Heart (Cardiac Asthma).
11	36	5 10	235	8	Heart (Embolism).
14	36	5 10½	200	1	Yellow Fever
17	36	5 10	210	3	Brain (Paralysis).
20	59	5 11½	260	4	Heart (Fatty).
41	35	5 8	225	10	Bright's.
78	43	5 8	200	11	Ulcer of Stomach.
92	44	5 6	192	18	Casualty.
97	45	5 6	190	17	Gastric Ulcer.
99	46	5 9	198	21	Suicide.
115	41	5 6½	190	12	Cholera.
134	54	5 10	215	29	Rheumatism and Heart.
135	35	5 8	180	4	Cerebritis.
145	56	5 10	200	19	Brain Congestion.
162	39	5 9½	194	34	Spinal Injury.
163	59	5 4	160	9	Apoplexy.
169	57	6 1	220	4	Brain (Softening).
191	34	5 9½	195	27	Typho-Malaria.
194	53	5 4½	175	20	Cystitis.
204	40	5 10½	215	28	Narcotism.
210	41	5 7	185	18	Lungs, Congestion.
212	59	5 4½	165	24	Heart, Valvular Disease.
213	42	5 5½	193	30	Bright's Disease.
216	46	5 8	200	20	Casualty.
217	25	5 8½	200	10	Suicide.
219	36	5 8	185	2	Casualty.
223	42	5 11½	245	12	Pneumonia.
226	45	5 10	210	9	Pneumonia.
251	48	6 3	240	9	Brain Inflammation.
252	59	5 6	200	14	Heart, Valvular.
262	45	5 8	191	20	Hepatitis (Acute).
266	54	5 8½	190	17	Atheroma.
273	47	5 9	205	21	Brain (Congestion).
289	43	5 5½	182	22	Hæmatemesis.
291	45	5 8½	212	15	Jaundice (Acute).
294	41	5 8½	185	12	Heart Hypertrophy.
300	30	5 8½	200	15	Casualty.
312	37	5 9½	195	11	Myelitis.
313	43	5 7	178	38	Heart.
315	30	5 10	210	45	Typhoid Fever.
316	37	5 7½	195	29	Bright's Disease.
323	37	5 7	180	17	Endocarditis.
324	28	5 7½	195	11	Typhoid Fever.
332	54	5 8½	185	14	Casualty.
354	41	5 7	175	28	Bright's Disease.
372	45	5 8	180	44	Heart.
373	36	5 11	235	44	Aortic Aneurism.
374	40	5 7	180	53	Bright's Disease.
389	43	5 9	198	9	Bright's Disease.
404	59	5 9	191	34	Typhoid Fever.
422	50	5 8	190	34	Pneumonia.
439	35	5 10	195	22	Bright's Disease.
457	52	6 0	248	28	Heart Fatty.
460	48	5 4½	193	29	Apoplexy.
465	38	5 10	235	33	Typhoid Fever.
468	53	5 10½	220	15	Apoplexy.
469	44	5 10½	225	31	Carbuncle.
480	36	6 0	229	1	Suicide.
483	46	5 8	180	41	Heart (Rheumatism).
491	58	5 7½	186	22	Bright's Disease.
506	58	5 5½	195	36	Apoplexy.
512	38	5 4½	185	4	Brain (Congestion).
513	39	5 3	157	31	Rheumatism (Acute).
514	44	5 11	215	59	Bright's Disease.
515	36	5 8	180	44	Caries of Spine.
521	44	6 0½	235	10	Heart (Paralysis).
523	52	6 1	220	4	Casualty.
524	32	5 7	180	2	Bowels (Congestion).
531	40	5 10½	206	27	Liver (Atrophy).
534	46	5 9½	250	33	Abscesses.
535	40	5 8½	190	51	Brain (Softening).
539	37	5 9½	200	29	Typhoid Fever.
548	56	5 9	200	5	Cerebritis.
549	48	5 8	179	42	Bright's Disease.
550	59	5 5½	180	37	Casualty.
565	45	5 8	185	8	Casualty.
573	51	5 8½	194	22	Spinal Sclerosis.
577	45	5 6	187	30	Pneumonia.
578	23	5 9	200	30	Malarial Fever.
582	54	5 11½	240	35	Heart (Rheumatism).
585	43	5 8	185	47	Bowels (Hæmorrhage).
588	59	5 7½	176	52	Liver (Degeneration).
591	33	6 2	224	57	Pneumonia.
596	32	5 6	172	56	Casualty.
599	53	5 8	196	3	Bowels (Inflammation).
601	37	5 10½	204	13	Suicide.
603	54	5 11	223	21	Pneumonia.
614	51	5 6	169	20	Apoplexy.
615	56	5 8	210	24	Heart (Paralysis).
626	49	5 11	225	44	Heart (Paralysis).
649	35	5 9	200	21	Enteric Fever.
669	52	5 5	185	51	Apoplexy.
671	52	5 8	185	21	Suicide.
679	43	5 10	200	45	Apoplexy.
682	57	5 10	200	57	Bright's Disease.
683	47	5 8½	185	12	Casualty.
688	58	5 8½	214	10	Brain.
689	59	5 10	205	22	Brain (Paralysis).
694	50	5 9½	200	21	Cancer.
698	41	5 3	160	26	Casualty.
725	36	5 8	187	51	Nephritis.
742	37	6 1	230	13	Bowels.
755	54	5 8	192	16	Heart.
759	54	5 9	190	54	Bright's Disease.
760	59	5 10	220	31	Brain (Softening).
799	34	6 1	180	43	Cancer.
804	31	5 7	182	53	Bladder.
823	47	5 6	170	7	Heart (Paralysis).
825	38	5 6½	180	43	Nephritis (Acute).
831	58	5 8½	236	17	Apoplexy.
838	48	5 6	174	72	Apoplexy.
845	36	5 8½	235	41	Œdema of Glottis.
852	57	5 4	182	45	Heart (Fatty).
863	51	5 5	165	21	Suicide.
872	37	5 6	170	67	Liver (Atrophy).
906	54	5 7	212	60	Bright's Disease.
915	38	5 6½	170	52	Tetanus.
935	50	6 0	245	66	Heart (Valvular).
962	33	5 7½	193	42	Diabetes.
969	50	5 7	175	74	Apoplexy.
971	51	5 4	189	54	Cancer.

six per cent., died of some lingering illness, and forty-six of acute attacks.

Twenty-six of the deaths were from disease of the brain or spine (twelve being apoplectic); twenty-four from disease of the heart and circulatory system; sixteen from disease of the kidneys and urinary organs (including twelve of Bright's disease); eleven died from diseases of the abdominal organs; fourteen from zymotic diseases; and seven of acute lung diseases. None died of phthisis, and but three of cancer.

It will be remembered that among the *light* weights ninety out of 138 were under forty years of age on joining, but of these *now* under consideration eighty-three of 122 were *over* forty when admitted, forty-three between fifty and sixty, and only four were less than thirty. Their average age was forty-five years.

Twenty-eight died in less than a year after being taken into the Society; thirty-six in between one and two years; twenty-four in between two and three years; seventeen in between three and four years; twelve in between four and five years; and but five lived more than five years. The average duration of their membership was twenty-seven months.

Now in that border-land, as I have called it, between fifteen per cent. and twenty per cent., among the heavy weights there were but forty-seven who have died (whilst there were, it will be remembered, 105 of the light weights), and of this forty-seven twenty died of cerebral or cardiac affections, eleven from casualties and suicides, eight of zymotic and intestinal disease, six from urinary complications, and two from cancer.

It is not until we get beyond the twenty per cent. line in this class that the principal part of the deaths occur, namely, seventy-five, thirty being from brain or heart disorder. Going still farther, it appears that there were forty-nine whose weight was more than *twenty-five per cent.* in excess of the standard, some of these exceeding forty per cent., and a few reaching even fifty per cent. beyond that rate. But of these excessive weights the cause of death was hardly what might have been anticipated, for there is no increased preponderance of brain or heart disease, the figures of

those over twenty-five per cent. being twenty-two in those diseases, six of diseases of the kidneys, six casualties, nine zymotic and digestive diseases, and all other causes six, the character of the changes which proved fatal seeming to be rather those peculiar to senile degeneration than those of fatty changes, it being borne in mind that more than a third of the men of excessive weight were over fifty years old, and more than two thirds over forty.

If, in summing up, the results of the two classes of cases be compared, it is to be noticed, first, that the *number* of those dying who are deficient in weight is greater than of those who have a superabundance of adipose tissue. This point cannot be accurately tested, of course, without knowing how many of each class have been admitted to the order, and this could only be done by too great labor, but I am satisfied that the number of those admitted who are fifteen per cent. or more *above* weight is greatly in excess of those fifteen per cent. or more *below* the standard, while the deaths, as has just been said, are more frequent among the latter.

It further appears, too, that as to the character of diseases to which they succumb there are more of those light in weight who die of chronic constitutional diseases, and more of those heavy in weight who die of accident, zymotic or acute diseases, though many of the latter fall victims to diseases of the arteries and the heart. *Sudden* deaths also are much more frequent with the heavy weights.

Still farther, it seems that the deaths are not so frequent of the heavy men who are but little (fifteen to twenty per cent.) *above* the standard as among the light weights who are fifteen to twenty per cent. below.

The conclusion which I have therefore reached from these observations is, very briefly, this: that for life insurance purposes men whose weight is above that laid down in the usual tables are better risks than those whose weight is less; that among the latter (light weights) the usual variation of twenty per cent., which is assumed to be within safe limits, is not safe, and that if we accept men, especially young men, whose weight is fifteen per cent. below the standard, we are approaching dangerous standing ground, and inviting, as it were, deaths from phthisis and wasting diseases; and when we reflect how great is the mortality from phthisis in all insurance organizations we cannot too strongly emphasize the necessity of constant vigilance in this direction, and of not only exploring most carefully the chest of such men, but also of taking into account all these other features which I think often precede the changes in lung tissue discernible by the ear, and may be observed at what may be called the pre-tuberculous stage.

With the heavy weights the case is different; free from danger of phthisis, we must, to be sure, take the greatest care to see that the heart and kidneys are healthy, and that the family history does not point to cerebral disease. With these points well guarded I am satisfied that an excess of twenty-five per cent. in weight is not dangerous in men who have not injured or are not injuring themselves by alcohol.

It may be said very truly that much in both classes must depend on the family history and inborn tendencies to disease of the parties, and that in this résumé I have not dwelt on this subject, but in *most* of the cases here cited the family history did *not* indicate danger from constitutional disease, because the greater number of such applicants as have anything unfavorable in those respects are rejected when they apply. These tables, therefore, have been made up largely and almost entirely of men whose deficiency or excess of weight was the *only* unfavorable feature at the time of their being accepted, this feature not having been then regarded as sufficiently important to have a determining effect on the question of rejection.

EXTIRPATION OF A RETRO-RENAL SARCOMA BY ABDOMINAL SECTION.[1]

BY JAMES R. CHADWICK, M. D., BOSTON.

MRS. A. M. E., aged fifty-two, a widow, had had two children and five miscarriages. For twenty years she had occasionally had functional urinary disturbances. Since the birth of the last child, ten years ago, she had been in fair health except that for a year she had been having night sweats, chills, and been losing flesh and strength. In January, 1884, she had a very severe backache, attributed to cold, which was finally relieved by Dr. C. E. Stedman, who recognized no special cause until the fullness of her abdomen led him to the discovery of a tumor in the region of the left kidney early in April.

Early in May I was called by him in consultation, when the left side of the abdomen was found to be filled by a rounded, slightly nodular growth, which extended from the lumbar region to the median line laterally, and from the ribs down to the anterior superior spine of the ilium. Dr. Stedman and I (as did Dr. G. H. Lyman, and Dr. J. C. Guptill, of Northborough, subsequently) concurred in the diagnosis of enlarged kidney, probably malignant, which was apparently confirmed by a report from Dr. E. G. Cutler, that a specimen of the blood was "apparently not leucocythemic," and by the following result of an analysis of the urine by Prof. E. S. Wood: "Albumen, very slight trace. Considerable pus, some of which is in clumps; little blood; small round cells; an occasional small granular cast; no excess of bladder or vaginal epithelium." Dr. Wood appended these remarks, of which the accuracy was remarkably verified subsequently: —

"There is certainly some trouble high up in the urinary passages, but I cannot tell its exact nature. The absence of any excess of bladder or vaginal epithelium shows that the pus does not come from those membranes, and the absence of any large number of casts shows that it probably does not come from the kidney itself. The only other place is the pelvis of the kidney, and your tumor may be a dilated pelvis or *a morbid growth somewhat affecting the mucous membrane of the pelvis of the kidney.* But I cannot make a positive diagnosis. All that I can say is that the urine is not inconsistent with such a theory, and that there is probably some chronic inflammation of the pelvic mucous membrane."

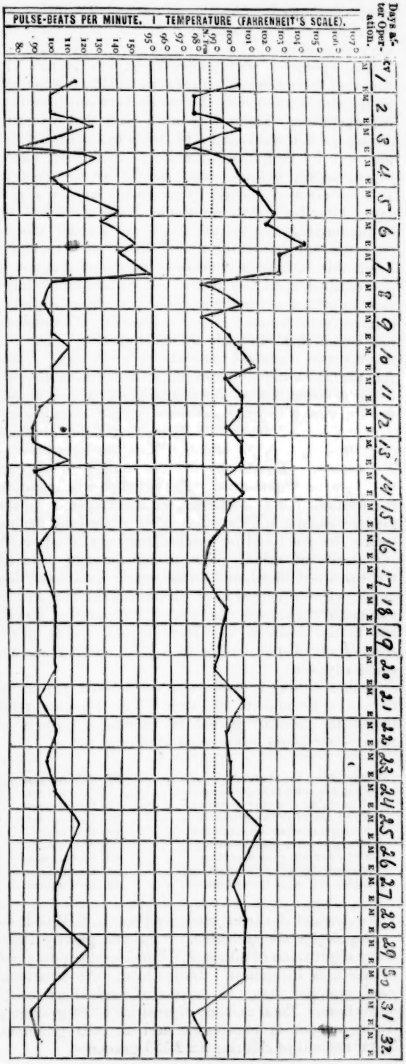
On learning the desperate character of the growth the patient imperatively demanded the small chance of recovery held out to her through extirpation of the diseased kidney. On May 27th she accordingly entered my private hospital for operation.

In studying the literature of the subject, especially

[1] Read before the Obstetrical Society of Boston, June 14, 1884.

the recent papers by Drs. Harris[1] and Homans,[2] I was impressed by the idea, as I now think unduly, that one of the chief immediate dangers of the operation is deficient secretion of urine, for quite a number of the deaths, reported by these writers in their tables, were apparently attributed to "anuria" or "uræmia." In order to diminish the danger to my patient from this source I sought to stimulate her kidneys to secrete double the normal amount, and to reduce the amount of urea by restricting her diet to food containing but a small amount of nitrogen. By discontinuing the daily small amount of morphine (half a grain) upon which she had become dependent, by administering half a drachm of acetate of potash three times a day, I so far succeeded in my purpose as to increase the daily amount of urine passed from one pint to four pints, although it again decreased to two pints on the day before the operation. By a diet of milk and gruels I assumed that the excretion of urea was reduced to one half the normal amount, as has been demonstrated to result from such a diet. In other respects the woman's condition was fairly good, though she was much reduced in strength and flesh.

Tuesday, June 3, 1884. Operation at eleven A. M., assisted by Drs. C. E. Stedman, J. W. Farlow, and C. M. Green, in presence of Drs. B. Cushing, J. E. Kelly, R. T. Edes, and C. P. Putnam. Ether administered by Dr. F. H. Lombard. An incision about nine inches long was made in the median line of the abdomen, this location being selected because the tumor was manifestly too large for extraction through a lumbar incision, because for the same reason it was thought that an incision in the linea semilunaris would give a less easy access to the renal vessels, which it was my wish to ligate before I raised the kidney from its bed. The left rectus muscle was so rigid that it was found necessary to make a transverse incision, two inches long, through it at the level of the navel in order to expose the tumor. The stomach was found overlying the upper part of the tumor and was pushed upwards. The transverse colon crossed the tumor at its middle, its mesentery investing the lower portion of the tumor and containing many large vessels. The peritonæum investing the portion of the tumor about the colon was devoid of large vessels, and was consequently selected as the place for incision through which to enucleate the tumor. While incising this peritoneal layer every fine bleeding point was tied with silk sutures. The tumor was seen to be about the size and shape of an ostrich egg. Its lower rounded end was entirely invested with peritonæum, which was slowly peeled off with the fingers, every vessel which ran into the tumor being tied on both sides before being cut. The ureter, which passed to the right of the tumor and was not involved in it, was carefully avoided. The kidney rested upon the upper end of the tumor on its inner side, having been lifted from its bed by the tumor; it was closely bound to the tumor by adhesions, which were separated with but one slight laceration of the renal tissues, the oozing of blood from which was checked by the benzine cautery. At this point the pulse failed and respiration ceased, although not more than six to eight ounces of blood had been lost. Subcutaneous and rectal injections of brandy together with artificial respiration slowly revived the patient. The only remaining attachment of the tumor was to the subrenal cellular tissue; this, which could hardly be called a pedicle, was transfixed with a curved needle and tied in two halves. The tumor was now lifted out of the abdomen. The kidney, which was uninjured, except for the small lesions alluded to, and unimplicated in the growth, was put back in its proper site. All blood-clots were carefully wiped from out the peritoneal cavity, which subsequently remained dry. The two in-



[1] American Journal Med. Science, N. S., vol. lxxxiv. pp. 109–118, July, 1882.

[2] Boston Medical and Surgical Journal, vol cx., pp 73–77, January 24, 1884.

cisions were rapidly closed with silk sutures and the abdomen covered with borated cotton. The carbolic spray was not used, but otherwise the full antiseptic method was pursued. The room had been thoroughly disinfected on the day before the operation by burning sulphur in it.

The tumor was sent to Dr. W. F. Whitney, curator of the Warren Museum, who reported as follows: "The weight 650 grammes; it is an oval shape, being of the dimensions of $16 \times 8 \times 5\frac{1}{2}$ centimetres. The structure shows it to be a large round-cell sarcoma, but its origin and finer histology will have to be made out after hardening."

The operation was completed at one P. M. The curves of the pulse and temperature exhibit the changes in her condition for the thirty-two days subsequent to the operation. There was much pain and vomiting during the first week, and a tendency to collapse, which was met by morphine, stimulants, beef juice, champagne, coffee, quinine, etc., chiefly by the rectum. The bowels were moved by an enema on the eighth day. After the eighth day the food was given entirely by the mouth. On the thirteenth day a small abscess near the anus was lanced and some pus evacuated. From this incision a constantly increasing amount of pus escaped until her death, besides numerous large sloughs of the rectum and cellular tissue, constituting a large rectal fistula and pelvic abscess. The abdominal wound healed chiefly by first intention. The silk sutures were removed on sixth to ninth day. After the twentieth day a tumor began to form in the left hypochondriac region, from which six ounces of pus were drawn off by the aspirator on the twenty-ninth day. A second insertion of the aspirator obtained only fresh blood, presumably from the substance of the kidney. The tumor did not entirely disappear, but remained quiescent. The attempt was made on the fortieth day to make a permanent opening in the lumbar region at the point of the previous aspiration. No pus could be reached, but only blood smelling plainly of urine. The urine, for two days after, contained blood, and subsequently pus, until her death, which occurred from exhaustion at the end of the tenth week, owing to lack of recuperative power, and to the drain of the fæcal fistula, which never showed any disposition to heal. An autopsy was accidentally lost.

Before closing I must say a word about the secretion of urine and its character. The following table shows the amount passed in successive periods of twenty-four hours terminating at nine A. M.: —

Day before the operation	32 fluid ounces.
First day after the operation	7½ fluid ounces.
Second day after the operation	9 fluid ounces.
Third day after the operation	56 fluid ounces.
Fourth day after the operation	40 fluid ounces.
Fifth day after the operation	33½ fluid ounces.
Sixth day after the operation	40 fluid ounces.
Seventh day after the operation	56 fluid ounces.
Eighth day after the operation	45 fluid ounces.

Analyses of the urine, made by Prof. E. S. Wood: —

Day before the operation. "Specific gravity 1008. Very slight trace of albumen. Considerable pus, some of which is in clumps. Little blood. An occasional small granular cast. No excess of vaginal or vesical epithelium. Total amount of urea = 12.98 grammes. Total amount of phosphoric acid = 0.88 grammes. Total amount of chlorine = 2.535 grammes."

First day after the operation. "Specific gravity 1027½. A trace of albumen. Numerous granular, brown granular, and fibrinous casts. Very little pus and blood. Renal and pelvic epithelium."

Fourth day after the operation. "Specific gravity 1028. Very slight trace of albumen. Brown granular and fibrinous casts. Large brown renal epithelium, and very little blood. Better than the urine of the first day."

Seventeenth day after the operation. "Specific gravity 1016½. Very slight trace of albumen. *Very* little blood. An occasional blood corpuscle. An occasional hyaline cast and patch of pelvic epithelium. Slight excess of renal epithelium. There is very great improvement so far as the renal hyperæmia is concerned. There is a little pyelitis which, probably, will not last long."

This record shows that the immediate effect of the operation was to produce an acute hyperæmia of one or both kidneys and some pyelitis; that during the forty-eight hours immediately following the operation the amount of urine was greatly reduced, but after that fluctuated within normal limits. That the decreased excretion of urine was not due to the congestion of the kidney is evident from the fact that the amount of urine became and remained normal after the second day, although the hyperæmia persisted, with but gradual abatement, for three weeks and over. I have searched the daily bulletin of this case to explain the diminution and increase of the renal excretion.

Scarcely any liquid was taken by the mouth until after she had a dejection, on the seventh day. During that week she had frequent small enemata of concentrated beef juice, brandy, etc., the total volume of liquid absorbed into the system being small. She had, during the week, from half a grain to a grain of morphine subcutaneously each day. There was no special vomiting attributable to the ether, but frequent regurgitation of fluid throughout the week. The only possible clew which my record shows is derivable from the pulse and temperature curves. On these it will be noticed that the temperature was depressed for the first three days (which includes the day of the operation); that the pulse, though subject to fluctuations, ranged lower than on the subsequent days. For the week of observation before the operation the pulse had never been lower than 110, or the temperature than 100° F. These facts seem to me entitled to great significance in connection with the fluctuations in the amount of urine, and impel me to the belief that the marked deficiency in the amount of urine passed during the forty-eight hours following the operation is in this case attributable to the depressed state of the patient's system, that is, *shock*, and not to the fact of the interference with the kidney and the hyperæmia shown to exist. Applying the same reasoning to the cases of death after extirpation of one kidney, attributed directly or by implication to "anuria" or "uræmia," I feel justified in entertaining a doubt as to the correctness of the assertions. I have hitherto kept no exact measurement of the urinary excretion after severe abdominal operations, but recall distinctly several cases in which the volume of urine passed in the first few days was very small.

I do not believe that a dangerous deficiency of urinary secretion should be regarded as one of the perils of nephrectomy.

SICK HEADACHE.[1]

BY FRANCIS F. BROWN, M. D.

Sick headache, migraine, is a neuralgia. This is not the popular impression. Sufferers from it attribute it to "biliousness." The nausea and vomiting is proof positive to them that their trouble is due to derangement of stomach and liver, and that the headache is consequent upon it. This is not only the popular belief, but it was the doctrine of the systematic works until not many years since. In Wood and in Watson sick headache is discussed under the head of the digestive derangements.

That this disorder is a neurosis is evident from the behavior of the attack, its change in subsequent years into ordinary neuralgia, its local effects in some cases, and its hereditary character and connections with other neuroses.

First. I think no one can watch closely an attack of sick headache, especially if in his own person, without seeing evidence of its neuralgic character.

To begin with, there may be up to the time of the onset not the slightest symptom of gastric or hepatic derangement. The digestion may be perfect, the tongue clean, the bowels regular, there has been no error of diet; in short, evidence of indigestion or faulty digestion may be entirely wanting, and, the attack over, the digestive organs resume their functions perfectly, and continue to do their duty well until temporarily suspended by another paroxysm. Some feel unusually well on the eve of an attack. One gentleman tells me, "I never feel better in my life than the evening before I have sick headache. I go to bed feeling first rate." Persons subject to sick headache have usually premonitory symptoms which tell them an attack is impending. This is important to notice, because treatment, to be of avail to ward it off, must begin before the storm is in full blast. These premonitory symptoms are different in different persons, but are usually the same in the same person, so that the patient, although he cannot, perhaps, give a very clear description of his feelings, is made certain that one is coming. Some of them are sudden noises in the head, flashes of light or globes of fire before the eyes when they are closed, black spots, an appearance like a gauze veil quivering, ability to see only half an object, sleepiness, etc. Whatever they are the patient knows very well what they mean. Gradually or suddenly the pain comes on; it may be like a blow or in great waves advancing and receding. The pain may be principally in one eye or on one side of the head; it usually is worse on one side than the other, even when the whole head suffers. The pain deepens, nausea and vomiting occur, usually at first of mucus, and finally, if severe and prolonged, bile. This vomiting indicates the lowest point of depression of the vital forces. In some cases there is a tendency to sleep, from which the sufferer wakes only to retch and vomit. After a time the vomiting ceases, the nausea subsides, the headache diminishes, and if not gone by bed-time a good night's rest, in a majority of cases, finishes the cure. Soreness of the scalp at the seat of greatest pain may remain the next day if the attack has been severe, and soreness of the abdominal muscles if the vomiting has been prolonged is, naturally, to be expected. In a large majority of cases the whole course of the attack is passed through between sunrise and sunset or a little later. Some, however, and these are usually the hereditary and severer cases, suffer for two or three days of extreme wretchedness before the storm blows over. It is evident that this is something very different from the headache which is consequent upon gastric and hepatic derangement only.

Second. The neurotic character of sick headache is shown by its gradual change with the increasing age of the patient into ordinary neuralgia, preferably of the ophthalmic branch of the fifth nerve. These attacks, as one approaches fifty, become less severe, the nausea and vomiting less pronounced and less common, and what is left as a substitute is an occasional period of neuralgic pain through or over one eye or over one side of the head. At sixty sick headache ceases, as a rule. Anstie [2] says it begins at the age of from fifteen to twenty-five. I think sometimes we see it — or something like it — in young children of neurotic ancestry.

Third. Another fact, as given by Anstie, showing its neuralgic character, is the results which sometimes follow on the track of the fifth nerve, which is the nerve most affected, and the seat of greatest pain, namely, iritis, ulceration of the cornea, blanching of the hair or eyebrow, local anæsthesia and periostitis of the frontal bone. The four latter of these occurred in Dr. Anstie's own person; the local anæsthesia remained permanent.[3]

Fourth. Another point showing its character is the family relations of the disease. That it is often hereditary we all have had opportunities of observing, and the most intractable cases are among those who have had neurotic ancestors. It is closely allied with asthma and epilepsy, and is sometimes the precursor of the latter. It often occurs in persons among whose ancestors epilepsy has made its appearance. Careful inquiry shows that persons suffering from one of these frequently have had one or more of the others. These are the statements of Anstie in the very instructive article already referred to. I have under my own observation a case illustrating the close connection of migraine and asthma. The patient, a lady, has always been a great sufferer from sick headache, and cannot remember when she did not have it. Her mother was a like sufferer. For six years previous to 1882 she resided in Maine, and while there was comparatively free from migraine, but had asthma severely, from which she had been previously free. Since returning to Reading the migraine attacks have resumed their old frequency and severity, while the asthma has nearly but not wholly left her.

Sick headache is more frequent in women than in men, in those who are the subject of other neuralgias than the opposite, and in general is a disease of debility. To this latter statement there are apparent marked exceptions. Occasionally we find a subject of it who carries the appearance of robust health. My impression is that these cases usually belong to families who are subject to it or the allied neuroses. Notwithstanding these apparent exceptions it still remains true that the subjects of migraine, as a class, are below par in health, and apt to be ill nourished and anæmic rather than otherwise. Many, it is well known, in whom the migrainous tendency is not strongly marked remain tolerably free from attacks so long as their general health is good, but suffer frequently from them whenever their system becomes weakened and depressed.

[1] Read before the Middlesex East District Medical Society.

[2] Practitioner, November, 1872, p. 273.

[3] Practitioner, November, 1872, p. 276.

The immediate occasion of an attack may be anything which tends to exhaust the system, especially overwork, which wearies the body while it taxes and worries the mind, and loss of sleep. Any slight deviation from one's usual routine, like a shopping excursion, or late hours, loss of a meal, or eating at an unusual hour, will induce an attack in some persons. Gastric derangements, like any other, will occasion them, but the notion that so-called "biliousness" is the great cause of sick headache is a mistaken one. The trouble commences at the other end of the line, and the nausea and vomiting are secondary. This does not lessen the importance of keeping the digestive system in good order. But in typical migraine I think exhaustion or loss of sleep is the occasion of ten attacks to one where indigestion is the cause. Undigested food is, I think, not usually seen in the vomit of migraine.

In treatment we aim, first, to avert an impending attack; second, to put the system into such a condition as to render it less liable to one.

First, to avert an impending attack, the most efficient remedies are guarana and caffeine. Thirty grains of the powder, or a teaspoonful of a good fluid extract of guarana, or three or four grains of caffeine, should be given every twenty minutes or half hour till three doses are taken, unless the symptoms sooner show signs of abating. This is a point I wish to emphasize strongly; it is the key to their successful use, namely, to give full doses, and to give them in the very first threatenings of an attack. Your patient will generally know when one is coming. Usually it is useless to give them after the storm is in full blast, though sometimes I have thought its duration was thus somewhat lessened.

Attention to some minor points may aid in averting an attack. When the patient has undergone any unusual fatigue or loss of sleep, anything which his own experience leads him to suspect will be followed by sick headache, I think, I feel quite sure, that a full dose of bromide of potassium, thirty to sixty grains at bed-time, will lessen his liability to it. This drug is useless, it seems to me, after the attack has begun. Under the same circumstances, if the patient is at all constipated, an aloetic laxative, like the old-fashioned *pil Rufi* (one at bed-time), is serviceable. If this has been neglected, a dose of citrate of magnesia may well be taken in the morning with the caffeine. This can usually be tolerated by the stomach. So trifling a matter as slight constipation appears at times to turn the scale under these circumstances.

These are the measures which have usually afforded more or less relief in my own attacks, and in a majority of my patients who have tried them. Many attacks may be wholly averted, in others a dull headache remains as a substitute for an outrageous one. I am bound to admit that in many cases also they fail, but in which ones I cannot tell except by trial. Treatment is most likely to fail in those whose hereditary neurotic tendency is strongly marked, and in those whose circumstances necessitate at times unusual strain and draft on the system. The subject of migraine is like a man whose balance at the bank is always small and soon overdrawn, his other assets are not immediately available; though not bankrupt he is often distressingly hard up. Perhaps this provision of nature is, after all, conservative and salutary, in that it teaches its subject by sharp suffering the limits beyond which he must not pass. And this suggests the question, are the subjects of this disorder, as a class, short lived? My impression is that they are not.

Of more importance than to repel a single assault is it to so fortify the system that none will be made. How to do it must be left to the judgment of the physician in view of the needs of each individual case. Every drain and tax and irregularity that the patient has learned by experience invites an attack must be looked after and stopped. Loss of sleep and irregular hours must be prevented. Over-lactation may be the trouble with one, excess of venery with another, abuse of tea or coffee or tobacco with others, over-feeding with some, under-feeding with many more; this latter is not infrequent, from a notion that in the stomach or liver lies the root of the difficulty. In general build up the patient's health and strength by whatever means seem most indicated. If anæmic, of course give iron. Generally, I think tonic doses of quinine, or of some one of the preparations from Peruvian bark, are of as much service as any one drug. Arsenic is highly commended by some. One of my medical friends who has had considerable personal and other experience with this disorder is certain that one fiftieth grain doses of the iodide of arsenic three times a day, continued for a considerable period, diminishes the frequency and severity of these attacks. If there is the slightest constipation use laxatives, preferably, I think, the aloetic, but avoid purging. A full diet is generally indicated. The physician or nurse when doing night work should not fail to take food in the night. Fasting then makes one doubly liable to an attack the next or second day. The use of fat food, cream, and cod-liver oil is strongly recommended by Anstie in this as well as neuralgias generally. A careful and persevering use of such means will, I am satisfied, in a great majority of cases diminish very much the frequency and severity of these attacks.

I wish to add a few words about the use of cannabis indica. In this drug I believe we have a remedy of great value in migraine. My attention was particularly called to it by an article in the *New York Medical Record* of December 8, 1877, by Dr. Seguin, who says that in doses of one third to one half grain of good extract, thrice daily, continued for months, not less than three, it diminishes in a marked degree one's liability to these attacks. My experience of course has been quite limited, but I have had a few patients whose improvement from its use, after the failure of tonic treatment alone, has been very marked. One case, a lady of thirty-three, — whose mother suffered all her life from migraine, and father from migraine and asthma, — who had been having attacks increasing in severity and frequency for months, till she was having one nearly every week, each attack lasting two or three days, experienced immediate relief, and while she had threatenings did not have a decided attack for six months. This was three years ago; her improvement, though not immunity, has continued.

Though some begin to feel relief at once, the drug should not be considered to have had a fair trial till after months of continuous use. I have seen patients relieved after persevering four or five months who saw little or no benefit in three. The notorious uncertainty of the quality of this drug is a decided drawback to a satisfactory trial of it. What proportion of cases will be benefited by it, and how permanent will be the relief, I am not prepared to say.

A GAS FURNACE FOR FIRING DENTAL ENAMELS AND PORCELAINS. CAUSES OF "GASING" IN FIRING TEETH.[1]

BY WILLIAM HERBERT ROLLINS.

THE two subjects are combined because by means of the former I have been able to discover the latter.

The furnace shown in Figures 1 and 2 will give a

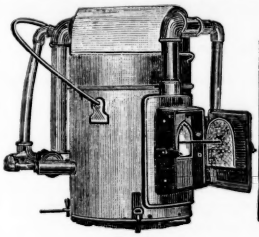


FIG. 1.

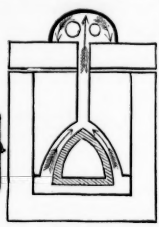


FIG. 2.

heat from a dull red to a light so bright that an object in the muffle is invisible. Looking at the figures will enable any dentist, by means of the following brief description, to make a similar one: The furnace consists of a cylinder of sheet iron ten inches in diameter and eleven inches high. It has a handle and an iron door. The cover is a similar cylinder two inches deep. Both are lined with porous fire clay two inches thick. The furnace walls have four holes in them. Three of these holes give passage to three tuyeres, the fourth is for a No. 3 muffle, the mouth of which is closed by an iron door lined with asbestos. The door is perforated by a platinum tube, through which passes the platinum trial rod with a small spoon end for the test piece. This rod can be withdrawn from time to time to look at the test piece. At the front of the furnace are two iron tubes, one for gas, the other for air. These pass under the fire-clay arch, where they are brought to a yellow heat by the waste gases as they escape through the slit in the top of the furnace. See Figure 2. Each of these tubes divides into three branches at the back of the furnace where the gas tubes enter the air tubes. In this way three double tuyeres are made, their mouths corresponding with the holes in the furnace. This arrangement is necessary, for if the heated air and gas are allowed to mix before reaching the mouths of the tuyeres these would be destroyed by the intense heat. Figure 2 is a perpendicular section of the furnace. The course of the heated gases is indicated by the arrows. A similar furnace for dental metallurgy will be described in another paper.

Any one familiar with the metallurgy of iron will see that the principles which have been used were discovered long ago. The hot blast was invented by Neilson in 1830. Siemens used gas as a fuel, and heated both this and the air. Using the waste gases to heat the blast is not new. Naphtha has been used to increase the illuminating power of gas, and knowing this, its value for increasing the heating power would occur to any one. Porous fire clay was known in Strabo's time, though T. Fletcher, with his usual capacity for adopting other men's ideas and giving them no credit, has recently reinvented it.

Though the principles were discovered long ago they had never been used together, and by this new combination I have been able to do what has never been done before in a gas furnace, produce heat enough to bake teeth, and this, too, in so short a time as forty minutes from the time the gas is lighted.

CAUSES OF GASING IN FIRING MINERAL TEETH.

In my first experiments for making enamels for filling conspicuous cavities in teeth difficulty was sometimes found in making the enamel base of a pure translucent white. As the result of somewhat elaborate tests it was found that the gray or green tint was due to the reduction of some of the lead oxide. A similar difficulty was encountered when the enamel base was fritted with the metallic oxides necessary to give it the shade of the teeth. Here the oxides themselves were reduced.

It therefore seemed probable that the so-called gasing in mineral teeth came from a similar cause.

Many experiments and analyses were made to test the matter, and though it is not worth while to give these in detail, one experiment, which is easily tried, will be mentioned: After having made a furnace like the one described, light the gas and open the air valve. When the heat is high enough put an unbaked tooth into the muffle. When taken out the color will be pure. Now diminish the oxygen by partly closing the air valve. Put in another unbaked tooth. When this is removed it will be found gased. The same result will follow with the air valve in the same position as in the first experiment if the supply of gas is increased. In experiments with dental enamels and porcelains it is advisable to have a slight excess of air in the furnace. Where the color used, as, for example, platinum, yields the proper tint in the metallic state this precaution is unnecessary, as in these cases the color has no oxygen to give up.

[1] Abstract of a paper read before the Society for the Advancement of Oral Science, June 21, 1880.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

JUNE 14, 1884. The President, DR. C. ELLERY STEDMAN, in the chair.

EXTIRPATION OF A RETRO-RENAL SARCOMA BY ABDOMINAL SECTION.

DR. J. R. CHADWICK read the paper.[2]

DR. C. E. STEDMAN said he had first seen the patient two or three years ago, when he was called to draw her urine. He had seen her again about a month before the operation: she was then rapidly emaciating and growing weak: she complained only of pain in the back, the pain and weakness being her only symptoms. He had found a tumor in the region of the left kidney.

DR. BLAKE asked if the tumor had interfered with the functions of the kidney.

DR. CHADWICK said that from his examination of the urine Dr. Wood was led to think that there was some lesion of the pelvis of the kidney.

[2] See page 388 of this number of the JOURNAL.

DR. BLAKE inquired if the kidney showed any effects of pressure.

DR. STEDMAN thought the kidney was a little redder than usual.

DR. BLAKE thought it was best to avoid transverse incisions of the abdomen, as there was liability to herniæ.

DR. CHADWICK said the transverse incision was an apparent necessity in this case, as he believed at the time it would be necessary to tie the renal vessels. He used silk ligatures and sutures. In reply to a question by Dr. Blake, Dr. Chadwick said that no glandular infiltration was observed.

DR. BLAKE said that run-down patients recover better after operations than those in the full flush of health.

DR. DAVENPORT observed that Keith had found in seventy cases that recovery was slowest in tapped and run-down patients. He thought few cases died of peritonitis; that few, in fact, have it, except a slight local peritonitis. He had noticed after operations a diminished amount of urine, and thought the diminution might be due to the ether. He asked the reader if he thought the scanty secretion of urine was due to the operation.

DR. CHADWICK did not know what effect on the kidney was caused by abdominal operations, but thought that in some cases of nephrectomy the small amount of urine had been assigned as the cause of death. He thought the diminution might be attributable in part to the diminished amount of ingesta and to the use of opiates.

OBSTINATE VOMITING OF PREGNANCY: INDUCED ABORTION: RECOVERY.

DR. FIFIELD reported the case, which he had seen in consultation. The patient was about three months pregnant, and for two weeks her attending physician had tried unsuccessfully to relieve the obstinate vomiting which was rapidly exhausting her strength. Oxalate of cerium, morphia, and other remedies were employed, also applications of iodine and nitrate of silver to the cervix, but all without effect. Rectal enemata were not well borne. It was decided to induce abortion, as the patient was sinking rapidly: Dr. Fifield therefore introduced a bougie within the uterus and waited twenty-four hours; but no result followed. A second bougie was then introduced to the depth of several inches, also without effect. Dr. Fifield then passed a sound into the uterus and moved it freely about: no pain was caused thereby and no blood followed the withdrawal of the sound; but the next day the fœtus was discharged with unbroken membranes. The change was marvelous: food was retained the same day, the color came back, the bowels, which had been obstinately constipated, resumed their function, and the patient was up and dressed at the end of a week. In passing the sound Dr. Fifield observed that the uterus was much anteverted, and he alluded to the fact that in fœtuses and young infants the uterus is anteflexed and bent to the left.

DR. BLAKE regretted that one need ever to resort to the induction of premature labor for the relief of vomiting: he had always found that some other treatment sufficed: he thought counter-irritation was often efficient, with regulation of diet or rectal alimentation. If patients with gastric ulcer or intestinal obstruction. can be tided over with rectal alimentation, why not pregnant women?

DR. CHADWICK had not always seen blood follow the introduction of a sound, even when passed for inducing labor.

DR. RICHARDSON had seen a woman three months pregnant and near death from vomiting, into whose cervix he inserted two laminaria tents and dilated the os. Abortion did not occur; but immediate improvement followed, and the patient was able to take egg nogg.

PLACENTA SUCCENTURIATA.

DR. W. L. RICHARDSON reported the following case: —

P. T., primipara, twenty-two years of age, entered the Boston Lying-In Hospital May 31st with this history: She was about nine months pregnant and expected to be confined at any moment. May 27th she had some flowing, without any assignable cause, lasting two days. She appeared on entrance very feeble and pale. She was put to bed and nourishing diet ordered. June 1st. Some flowing, which continued slight until the 4th, when flow increased. An examination showed the external os admitting the finger; on the side of the internal os placental tissue was felt: a diagnosis of low attachment of the placenta was made.

June 5th. She was delivered of a boy weighing six and three quarters pounds. The placenta was expressed with some difficulty, and was of normal size. Connected with it was a placenta succenturiata (three by four inches), oval in shape, and attached along the side of the internal os.

June 21st. Mother and child discharged well.

NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH, ST. LOUIS, OCTOBER 13, 14, 15.

FIRST DAY'S PROCEEDINGS.

THE National Conference of State Boards of Health assembled for its annual meeting at Liederkranz Hall, St. Louis, Monday, October 13th, HON. ERASTUS BROOKS, of New York, occupying the chair. The meeting was an especially important one, as it was understood the questions concerning a possible invasion of cholera would be discussed. The following representatives of State Boards of Health were present: —

Arkansas, Dr. J. A. Debrell, Jr.; Connecticut, Dr. C. A. Lindsley; Illinois, Dr. J. H. Rauch; Kentucky, Drs. J. O. McReynolds, J. N. McCormack; Louisiana, Drs. L. F. Salomon, S. S. Herrick; Massachusetts, Dr. H. P. Walcott; Michigan, Dr. Henry B. Baker; Minnesota, Drs. D. W. Hand, W. H. Leonard, C. N. Hewitt; Missouri, Dr. J. C. Hearne; New Hampshire, Drs. I. A. Watson, G. P. Conn; New Jersey, Dr. E. M. Hunt; New York, Erastus Brooks; Rhode Island, Dr. C. H. Fisher; South Carolina, Dr. T. G. Simons; Tennessee, Drs. J. B. Lindsley, G. B. Thornton; Texas, Drs. R. M. Swearingen, J. L. Carter; West Virginia, Dr. J. E. Reeves; Wisconsin, Drs. J. T. Reeve, S. C. Johnson; Ontario, Dr. P. H. Bryce; Canada, Dr. C. W. Covernton.

In calling the meeting to order the CHAIRMAN said it would be useless to repeat what had been so often urged in the past in regard to the great importance of

State Boards of Health. He was glad to think that so many States of the Union already possessed these organizations, and felt sure that those which were still without them would soon recognize their utility. In his own State he was happy to say that local organizations have been completed in 900 towns, in nearly every one of the 240 villages, and in twenty-four of its cities. And this had been accomplished rather by persuasion than by force, although the State gave them unlimited power to establish organizations in the various towns and villages.

The minutes of the last meeting, held at Washington, May 7, 1884, were read by the secretary, DR. J. N. MCCORMACK, and accepted.

PLAN OF ORGANIZATION.

DR. HEWITT, in behalf of the State of Minnesota, presented a plan of organization, the main points of which were as follows: The establishment of a body to be known as the Council of State Boards of Health of the United States; the officers to consist of a chairman, corresponding secretary, recording secretary, a treasurer, and an executive committee, the latter to consist of one member from each State Board. The objects of th eorganization were to cultivate a closer acquaintance between officers and members, to facilitate discussion of sanitary work, and to give better opportunities for comparing and discussing methods.

DR. RAUCH moved that the plan be referred to a committee of five, of which the chair and secretary be ex-officio members.

DR. BAKER offered an amendment that the report of the committee be received at the next annual meeting. The motion as amended was then carried, and the Chair appointed as the remaining members of such committee Drs. Rauch, Hunt, and Hewitt.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.

An invitation from the American Public Health Association to the members of the Conference of State Boards, asking them to contribute papers and be present at a special session on Wednesday, was accepted with thanks.

The question whether papers prepared for the Conference should be reserved for the American Public Health Association aroused a warm discussion. DR. RAUCH said he proposed to deal with men who would give orders when the cholera came, and not with men who would hold sanitary prayer meetings. He had prepared a paper to be used as a nucleus for discussion at the Conference of State Boards of Health, and not at the American Public Health Association.

DR. SALOMON indorsed these views, and thought the two bodies were entirely distinct organizations and had different spheres.

Several other speakers expressed similar sentiments, Dr. DEBRELL stating that the principal thing that brought the Conference together was to devise means to keep cholera out of the United States. He valued the American Public Health Association, which has members all over the country, but he thought in moments of emergency it did not have the same power that State Boards of Health had.

The CHAIRMAN thought that the two associations ought to act in harmony, and that there was no necessity for any rivalry or recrimination.

PAPER BY DR. RAUCH — EFFICACY OF QUARANTINE AND THE RIGHTS OF STATES.

DR. J. H. RAUCH, of Illinois, then by general request read the paper which he had prepared for the meeting. It was virtually a presentation of the efficacy of quarantine and of the rights of individual States to keep their own borders free from contagion. He stated that Illinois, the largest internal tax-paying State in the Union, was vitally interested in the manner in which quarantine was enforced in New York and Eastern ports. He asserted that his wide range of experience in all cholera epidemics has convinced him that cholera is conveyed only by means of infected persons, and hence there was no necessity for guarding against merchandise, rags, etc. The Illinois State Board of Health would have the right to close up the Illinois end of the St. Louis bridge if the great city became plague-stricken. The State would also have the right to stop the Great Canada Southern Railroad from entering the State territory if the authorities thought Canada was afflicted with cholera. The same could be done on all lines, and all States had the same power, and it was only a mere question of assertion. For a period of six years sanitary officers and sanitary authorities have had no great demand made upon them. During these six years the interest in sanitary matters raised by the epidemic of 1878 — the yellow fever epidemic — has gradually diminished. When an epidemic actually exists and industry and commerce are paralyzed there is then no question in the public mind as to the desirability of sanitation, no hesitancy in making appropriations. But Rabelais told us nearly four hundred years ago what the devil did when he got well. The Forty-eighth Congress adjourned in spite of the fact that an epidemic was staring us in the face, after rendering inoperative all previous legislation on sanitary matters. It is now our imperative duty as sanitary officers to awaken public interest and to prevent the introduction of the epidemic of Asia to our shores. Much has already been done by the action of national and State authorities, and since the 2d of July last, over sixteen States have issued circulars of admonition.

In conclusion Dr. Rauch said: —

Congress should be urged to reorganize and rehabilitate the National Board of Health, or to provide an efficient substitute, one clothed with increased power and supplied with ample funds to maintain an effective system of modern sanitary quarantine for the exterior; to maintain an interior sanitary inspection service for the great highways of travel by rail and river; and to give judicious coöperation and substantial assistance to States and municipalities in preventing the introduction of epidemic diseases into one State from another, and their spread within the States themselves. Congress should give the President the power to issue a proclamation upon the recommendation of the national health authority forbidding immigration into the United States from infected districts; and it should provide some method of international sanitary coöperation between this country and the Dominion of Canada, whose interests are substantially the same as ours in these matters, and whose contiguity makes coöperation of vital importance. In States which now have no boards of health, or whose boards are not vested with the necessary authority or provided with adequate resources, the people should be awakened to the necessities of the situation. Legislators should be thoroughly informed as to the

facts, and urged to provide suitable legislation. Information on sanitary matters should be widely diffused to this end, and also to the end that, if an epidemic should come, we may not have to encounter the obstacles which ignorance is always ready to put in the way of what it does not understand. Happily, in this country, we are not likely to meet with the treatment that the superstitious peasantry of France and the lazzaroni of Italy have accorded their physicians and health officers. But sanitary education and knowledge cannot be too wide-spread. These are matters which may profitably occupy much of our time and attention for the next two months; and I would suggest that when this meeting of the Conference adjourn it be to meet again in Washington in December for the purpose of conferring with the President, the cabinet officers, and the committees of the Senate and House as to the legislation which should be asked for at the next session of Congress. To this meeting I think not only should representatives of State Boards of Health be invited, but also all quarantine officers and health authorities of all the large cities, as well as those of the Dominion of Canada. I would also suggest that quarantine officers should be requested to come prepared to give all necessary information concerning the quarantine affairs of their respective ports.

THE VIEWS OF THE NATIONAL BOARD.

DR. CHARLES SMART, surgeon of the United States army and member of the National Board of Health, upon special invitation, read a paper outlining the methods of disinfection and quarantine used by the National Board. The Board based its rules and regulations for preventing the introduction of cholera into the United States, and its spread from one State to another upon certain incontrovertible facts demonstrated by science and experience, among which were the following: —

That cholera is caused by a specific germ, and that this germ may be destroyed with no other interruption to travel and traffic than is needful to discover its presence and so apply the necessary means for disinfection. In order to secure international coöperation a conference was held at Washington in 1881, and, of twenty-seven nationalities represented, the larger number were prepared to enter into a joint treaty that would secure harmony of action. The first step taken by the National Board was to frame rules and regulations to be enforced at foreign ports to secure the best sanitary condition of vessels about to leave for a port of the United States. Ships are the great carriers and propagators of diseases of foreign origin, and the modern emigrant ship is a vast field for the cultivation of pestilence. Sanitary service at sea, for securing at the foreign port a clean vessel and uninfected freight, also commanded the attention of the Board. On the arrival of vessels at any port of the United States proper steps were laid down by the Board for the prevention of the entry of any infected boat. Every vessel was visited by the quarantine officers and all needful precautions taken in case of suspicion of pestilence; clothing, baggage, and cargo were carefully disinfected. If, in spite of all these precautions, the disease effected an entrance into any port, measures were taken to prevent its spreading from that port to other ports on the coast, or to interior points. Sea-coast, river, and railroad travel, and transportation were conducted under sanitary supervision. In the case of coast or river steamboats or vessels sailing from the infected port, measures of inspection and disinfection were enforced similar to those practiced at foreign infected ports. In addition to this, inspection stations were established at certain points on the Mississippi River, the medical officers of which acted as quarantine officers for the States threatened with invasion.

In conclusion the reader made some additional recommendations for the establishment of a more rigid local quarantine.

DISCUSSION.

DR. BAKER moved that all papers read be referred to a special committee of five for consideration. The motion was carried, and the Chair appointed as such committee Drs. Baker, Rauch, Walcott, Bryce, and Herrick.

The chairman, MR. BROOKS, opened discussion on the papers by a warm defense of the sanitary officers of New York. He said that so far as was morally and physically possible everything had been done to prevent the introduction of cholera into New York, and what had been done had been well done. The arrangements were so complete that, under the guidance of God, it was impossible for cholera to be introduced into that city. He made that explanation because New York had, unintentionally, perhaps, been unjustly censured in one of the papers.

DR. J. B. LINDSLEY, of Tennessee, said: "I am personally familiar with every cholera epidemic that has visited the United States, going back fifty years and standing by the graves of persons taken off by cholera in 1833. Never has cholera come to Europe without coming to America; never has it come to America without coming to Tennessee and sweeping the State from one end to the other. But never were the people of my State as frightened as are the people of France and Italy to-day. The people of Tennessee have given the State Board of Health of Tennessee the power, if one case of cholera appears in Chicago, of stopping the Illinois Central Railway. If one case of cholera occurs in New Orleans the State Board will stop the same vehicle from the South. If one occurs in New York the same thing will happen, and six great lines of transportation from north to south and at least a billion of dollars will be stopped in less than twenty-four hours."

DR. C. W. COVERNTON said he remembered everything connected with cholera since 1830. Filth is the gunpowder and the germ is the disease. If we keep away filth we are all right.

DR. CONN moved that, inasmuch as the Conference had no funds for the printing of Proceedings, the conclusions of the committee to whom the papers had been given should be referred to the American Public Health Association. This was agreed to, and after refusing by a vote of eleven States to five to reconsider the vote by which the committee having charge of the scheme of permanent organization were instructed to report at the next annual meeting the Conference adjourned until Tuesday.

SECOND DAY'S PROCEEDINGS.

The Session of the second day, Tuesday, October 14th, was a prolonged one; a paper by Dr. C. W. Chancellor, of Maryland, on the Non-Contagiousness of Cholera and the Inadequacy of Quarantine, and the

report of the Committee to which Dr. Rauch's paper of the previous day had been referred, giving rise to an active discussion, in the course of which, as was to be expected, a good deal of difference of opinion was manifested on the two principal points at issue, the contagiousness of the disease and the value of quarantine.

DR. CHANCELLOR'S PAPER. — THE NON-CONTAGIOUSNESS OF CHOLERA AND INADEQUACY OF QUARANTINE.

Dr. Chancellor, in his paper, took the ground that cholera was not contagious, and said there was hardly an instance of more stupendous folly than the attempt to prevent the spread of cholera by a system of sanitary cordons. Quarantine was not only useless, but it was a positive injury, because it prompted a false feeling of security and the neglect of other precautions. The history of cholera since 1817, when it first became known as such, having its origin in India, established, first, that sanitary cordons were unavailing, and secondly, that persons were afflicted with the disease who had not come in contact with the sick. If cholera was in the air it broke out in communities where there had been no ascertained introduction of the disease, but it was noticed that it gained its first hold and raged with greatest virulence where non-sanitary conditions prevailed. Dr. Chancellor cited a great array of instances in support of this view. Measures of isolation and of non-communication were futile, he declared. But though quarantine cannot be depended upon, the powers of government, national, State, and municipal, must be exerted to disarm the disease when it does come. The only practical work was to remedy the conditions favorable to the disease and let the germs take care of themselves. The best plan, he thought, was to establish without delay intelligent forces of sanitary inspectors. Ventilation and drainage must receive careful attention from all classes. Temperance and abstinence from unhealthy food and from intoxicating liquors must be urged upon the people. Warning should be given against exposure to excessive fatigue, and finally it should be the policy of the State Boards to tranquillize communities and inspire confidence.

Some approbation was manifested upon the termination of Dr. Chancellor's paper, but it was evident that the majority of those present were still disposed to rely upon quarantine in some form or other as a protection against invasion.

Dr. Holt, of the Louisiana Board, urged a quarantine, not of the old shotgun style, but intelligent provision for the detention of ships and the thorough cleansing of the hulks and the disinfecting of the contents before they were allowed to come into port.

Dr. Reeves, of the West Virginia Board, deplored the views of Dr. Chancellor, if that meant no quarantine at Baltimore. Of what use would be any precautions adopted by West Virginia.

Dr. Stewart, of Baltimore, assured Dr. Reeves that there wasn't the slightest danger of his port being thrown open.

REPORT OF COMMITTEE ON PRACTICAL WORK REQUIRED FOR THE PREVENTION OF CHOLERA IN THIS COUNTRY.

The committee, consisting of Drs. Baker, Walcott, Herrick, Rauch, and Bryce, to which Dr. Rauch's suggestions as to the "Practical Work required for the Prevention of Cholera in this Country" had been referred, having drafted its recommendations, reported as follows: —

Origin and Dissemination of Cholera.

There are three essential factors to the prevalence of cholera in this country as an epidemic: (1) The importation of the disease by means of ships more or less directly from its only place of origin in India; (2) local unsanitary conditions favorable to the reception and development of the disease; (3) persons sick with the disease in some of its stages, or things infected by such sick persons, to carry it from place to place. These three factors naturally suggest the methods of combating the disease, for which there is needed practical work, international, national and inter-State, State and local. So far as relates to State and local boards of health, their organization and activities are greater than ever before; but it must be admitted that after cholera has been introduced into a country inland quarantines are not easily and successfully maintained, although efforts in this direction are then advisable. In view of the threatened introduction of cholera into this country during the coming year, and the consequent immense waste of life and property values through derangements of commerce, trade, and productive industries, it is the sense of this Conference that the general government should maintain such a national health service as shall, by rigid inspection at the port of embarkation, question the freedom from disease and infection of all persons and things from infected districts; and shall secure the surveillance of such persons and things while on shipboard, and, when necessary, detention at quarantine stations on this side for treatment and disinfection.

Official Inspection.

In view of the present threatening aspect of Asiatic cholera, and the constant danger from other communicable diseases occurring at foreign ports having commercial relations with the United States, we urge upon Congress to provide for the appointment and maintenance at all such foreign ports where cholera, yellow fever, plague, small-pox, or scarlet fever exist, or are liable to exist, of medical officers of health, the same being either accredited consuls or attached to the consulates. The duties of these officers shall be: To give notice, by telegraph when practicable, of the existence or appearance of any of the above-named diseases to some constituted authority in this country; to give notice of the departure of any vessel known or suspected to be infected for any port in the United States; and, whenever requested by the master of any vessel about to load or leave for this country, to inspect thoroughly such vessel in all her parts, and also her cargo, her crew and passengers; to use such cleansing and disinfection as he may deem necessary, and to satisfy himself that all persons about to sail are free from dangerous communicable diseases, are not recently from infected places, and are properly protected from small-pox, giving to her commander a certificate of the inspection and of all precautionary measures taken. And it shall be the duty of the central authority in this country to transmit promptly intelligence of the existence of the above-mentioned

diseases at foreign ports and places, and of the departure of dangerous vessels for the United States and Canada, to all State and local health authorities in the country which may be interested in the same.

We further recommend, in case of those foreign ports which have no consular agents in this country, or no telegraphic communication with this country, and which are liable to transmit pestilence through commercial intercourse, that one or more medical officers be chosen to visit such ports as often as may be deemed necessary by the central health authority in this country, so as to give trustworthy information of the health and sanitary condition of those places.

Canadian Health Alliance.

Inasmuch as the Dominion of Canada is equally interested with the United States in protecting itself and the United States from the importation of dangerous diseases we suggest that Congress take such measures as will bring about concerted action with the Dominion and the British government by which the consuls of this country or of England at foreign ports shall examine and take such action as they may deem effective, and notify the authorities of such government as has authority over any port to which any ship may sail in the United States or Canada, in order that such government may be in a position to take effective measures against the importation of these diseases. We are gratified that the authorities of the Dominion of Canada and of the Province of Ontario have taken active steps toward protecting the people of Canada and, indirectly, those of the United States, by the adoption of extensive quarantine regulations. We feel, however, that with respect to those regulations regarding the landing of passengers from the mail steamers along the St. Lawrence, etc., further special regulations for the thorough disinfection of the baggage and effects of all passengers, cabin or steerage, who come from infected ports and places, should be carried out in a manner similar to that recommended by the National Board of Health. Believing that the importation of cholera into this country has usually attended the presence of immigrants from infected countries we therefore recommend that all such immigrants be prevented from landing at our ports until such time as the danger of the introduction of cholera by them shall have passed.

The Inspection and Quarantine Service inaugurated by the National Board of Health, and set forth in the paper by Dr. Smart before this Conference, but which system is now inoperative for want of an appropriation by Congress, meets with our cordial approval. To enable these protective measures to be carried out we recommend that Congress be urged in the strongest terms to legislate on this subject at an early date in its coming session, and to appropriate such funds as may be needful. The expenses incident to the work which has to be performed at foreign ports, and the establishment of refuge stations at points on our coast for the detention and treatment of infected vessels arriving from foreign ports, should undoubtedly be borne by the national government, and not by individual States or municipalities, for the benefits accruing therefrom are general and not restricted to localities, although some ports and cities on the coast may have a more immediate interest in the matter than others in the interior. It is probable, however, that this national protective work may not be sufficient.

Local Safeguards.

It will undoubtedly delay and lessen the chances of invasion, but it may not prevent invasion; the poison of the disease is subtle, and may effect an entrance into the country at some unguarded point. The funds necessary to the stamping out of the disease in a particular locality, and to the prevention of its spread to other localities, might in some instances be borne by the municipality or State affected; but should the disease occur in a locality which has failed or is unable to make provision for the occurrence, its spread to other cities and States would be imminent. The want of means at the infected point would be disastrous to many others. Congress has recognized the necessity for aid to State and local boards of health under similar conditions in the case of yellow fever. In 1879 the sum of $500,000 was appropriated and placed at the disposal of the National Board of Health; and the records show that of this sum $160,000 was employed in combating the epidemic of that year. We therefore recommend that the influence of this Conference be used with the view of having apropriated by the National Legislature the sum of $500,000, to be used, or as much thereof as may be needful, in case of a cholera invasion, in stamping out the disease from the infected localities, and in preventing its spread from State to State.

The removal of local unsanitary conditions favorable to the development of cholera is the especial work of State and local boards of health. Much has been done already in some States, but much remains which should receive immediate attention. Where it can be done, State sanitary inspectors should be appointed to visit all towns and cities specially liable to the disease, to counsel with the local authorities as to the best methods of prevention. This work should be vigorously prosecuted before the disease reaches our shores.

Health officers and inspectors appointed by State or provincial boards of health should, in addition to other sanitary work, see that the localities have set apart, erected or planned to be set apart or erected, structures which shall possess the sanitary requirements of an isolation hospital. But as regards all necessary work by local boards of health, most State and provincial boards of health have printed and issued documents which give ample instructions.

Advice to Citizens.

The cause of cholera is contained in the discharges from persons affected by the disease, or in things infected by such discharges. Should the disease reach our shores, the first case, and after this the first case which reaches any given community, should be strictly isolated; all infective material from these and from any subsequent cases should be destroyed in such manner as to stamp out the disease.

Your committee recommend that when this Conference adjourns it be to meet in Washington, D. C., the second Tuesday in December next, and that the secretary of this Conference be directed to invite the attendance at that time of the quarantine officers and the health officers of the principal cities in the United States and Canada, and that all delegates to that meeting be prepared to report the sanitary status of their State or locality, and what steps have been taken to improve the same and to prevent the introduction of disease.

The reading of these recommendations gave rise to some discussion, in the course of which Dr. Chancellor said had he known what the committee was going to recommend he might have kept his paper in his pocket. He believed in the majority ruling, and if it should appear that most of the States endorsed the recommendations he would vote for them too.

On the ballot all the States voted in support of the report save Minnesota, and the point made by the Board of that State was that the recommendations were so important that more time should be taken for their consideration.

The Conference then adjourned until the following afternoon.

Wednesday, October 15.

The recommendations for practical work indorsed by the American Public Health Association.

The draft of recommendations for practical work to be done to prevent the entrance and spread of cholera in the United States was presented to the American Public Health Association by Dr. J. N. McCormack, secretary of the Conference of State Boards of Health.

Drs. Hunt, of New Jersey, and Devron, of Louisiana, favored the adoption and publication of the recommendations by the Association.

Dr. Pinckney Thompson, of Kentucky, considered internal quarantine or sanitary cordons of very little use in stamping out cholera which had once effected an entrance into the country.

Hon. Erastus Brooks, of New York, moved that the communication be indorsed by the Association, printed, and copies be forwarded to the President of the United States and his Cabinet, and to each of the Senators and Representatives of the National Congress.

Dr. Watson moved an amendment that a sufficient number of copies of this report be sent to the health offices of the different boards of health and the officers of the Dominion of Canada boards.

The motion, as amended, was adopted.

NEW YORK ACADEMY OF MEDICINE.

At a stated meeting held Thursday evening, October 16th, Dr. H. M. Sims presented to the Academy a beautiful bronze bust of his father, the late Dr. J. Marion Sims, which he had had executed in Paris during the past summer. It was received in a brief address by the President, Dr. Barker, on behalf of the Fellows of the Academy; and Dr. Wm. H. Draper then read a

Memoir of the late Willard Parker, M. D., LL. D.;

after which Dr. A. L. Ranney read a paper on

The therapeutical effects of the internal administration of hot water in the treatment of nervous diseases.

The tendency of the age, particularly in neurology, he thought, seemed to be to manifest itself in endeavors to discover new medicinal agents, often to the neglect of simple remedies whose influence upon the system had not yet been thoroughly tested. Among the latter, to his mind, hot water stood preëminently at the head. There was little or nothing in medical literature in regard to the physiological and therapeutical effects of this agent when administered internally; and whatever of originality there was due in regard to the subject belonged to Dr. J. H. Salisbury, who called attention to it as early as 1858.

Having spoken of the different effects of different degrees of heat, in general, when applied to living tissues, Dr. Ranney said that he believed that the benefits that resulted from the internal use of hot water were due, in part at least, if not wholly, to heat. He then gave the following rules for its administration.

I. The water may be taken in doses of from one goblet to one and a half. The dose must be modified in accordance with its effects.

II. It must be taken hot and not warm (from 110° F. 150° F.), and, if necessary, fifteen minutes or more may be consumed in sipping a gobletful. Wooden cups prevent the water from cooling quickly. If there is obstinate constipation, Carlsbad salts, or other laxative, may be added to the morning dose. No flavoring is as a rule required.

III. The dose must be taken one hour and a half before each meal, with absolute punctuality, and again at bed-time.

IV. The temperature of the water should be increased as fast as it can be borne.

V. The hot water must be kept up with great regularity for at least six months in order to get its full effects.

VI. The dose should be determined largely by the specific gravity and general character of the urine. The object of the treatment should be to bring the specific gravity to the standard of health (1.010 to 1.022). and to keep it there.

VII. The use of cold fluids, in the form of beverages, must be absolutely prohibited.

VIII. A restricted diet is often necessary to the full effects of the treatment in some forms of nervous derangements. The condition of the subject in respect to flesh is to be the guide, as a rule, to the character of the diet prescribed, provided that marked disturbances to digestion or diabetic symptoms are not to be combated. In some instances Dr. Ranney said he employed a meat diet exclusively.

He spoke next of the physiological effects of the internal use of hot water on the stomach, skin, kidneys, intestines, liver, and pancreas, and then related some of the cases in which he had employed it successfully. Among these were instances of neuralgia, insomnia, gastralgia and neurasthenia, and two cases each of locomotor ataxia and diabetes. Both of the latter he thought were of neurotic origin. The theory of its action he believed to be that of reflex irritation from the effect of heat upon the nerves of the stomach and the solar plexus. Having answered several objections which might perhaps be raised against the use of hot water, in conclusion he advised its thorough trial on the following grounds: —

I. It was harmless, if it did not benefit.

II. Its effects were comparatively uniform if its administration were kept up for a sufficient time.

III. It seemed to have the effect of arresting degenerative processes in certain cases of organic nervous disease.

IV. Its effects were apparently permanent.

V. It could be employed as an adjuvant to other treatment.

VI. It had a marked effect in relieving hyperæmia and anæmia of the nervous centres, and was useful in the treatment of headache, vertigo, and neuralgia.

VII. It was of great service in the treatment of diabetes and some kidney affections. It ordinarily had the effect of raising the quantity of urinary salts.

VIII. The functions of the accessory organs of digestion, the liver and pancreas, were stimulated by it.

IX. It stimulated the action of the skin, and rendered the cutaneous circulation uniform.

X. It was useful in the prevention of sea-sickness. When given for this purpose it should be prescribed for from four to six weeks before the commencement of an ocean voyage.

The paper was discussed by Drs Seguin, Amidon, Birdsall, Putzel, Dana, and Corning.

DR. SEGUIN thought that the temperature of the water must necessarily be greatly reduced by the time it reached the stomach, and that it was probably merely as a diluent that the agent acted, since he had obtained equally good results from the use of cold water, which he usually directed to be taken with the meals. The most of the cases to which Dr. Ranney had referred were probably such as were usually associated with malassimilation or lithæmia, and the fact that he had enjoined a restricted diet, in addition to the use of hot water, seemed to indicate that it was the digestive function that was primarily at fault; in further corroboration of which was the fact that he took the condition of the urine for his guide in regulating the amount of water to be used. As to the benefit to be derived from water, whether cold or hot, it had been pointed out several years ago by Dr. McElroy, of Zanesville, Ohio, that in cases of neurasthenia in females a lack of thirst was often a characteristic symptom; an observation which was afterwards fully corroborated by Dr. Webber, of Boston. Personally he could see no objection to the use of ice water, as he believed that the temperature of the fluid became considerably elevated by the time that it reached the stomach. He had had no experience whatever in the treatment of organic disease of the nervous system with hot water

DR. AMIDON thought that the fact which Dr. Ranney had stated, that the agent acted gradually, so that six months were often required for the substantial relief of the patient, went far to show that its modus operandi could not be that of a counter-irritant or derivative. This slow action seemed to indicate very strongly, he thought, that the benefit which was produced by it was due merely to its diluent qualities, as Dr. Seguin had suggested.

DR. PUTZEL could not understand how an agent which was supposed to be useful in cerebral hyperæmia could also be of service in cerebral anæmia, and also agreed with Drs. Seguin and Amidon that the hot water could not act by exciting reflex irritation. An irritant, he said, after a time ceased to be such, and if the hot water acted in this way the best results from its use could be seen at first. He did not see how this agent could have any effect in organic nervous disease, and believed that the recovery from diplopia under its use in the case of locomotor ataxia to which Dr. Ranney had referred was merely a coincidence.

DR. BIRDSALL wished that the paper had given more clear statistics. As it was the cases were of little value since other methods of treatment were always used in addition to the hot water. Thus in his cases of locomotor ataxia Dr. Ranney employed nitrate of silver, a remedy which was acknowledged to be of considerable value in this affection.

DR. SCOTT, of San Francisco, who was a guest of the Academy, referred to the great value of hot water in checking emesis, especially after the inhalation of ether.

DR. RANNEY, in closing the discussion, contended that the effect of hot water was very different from that of cold, and said that four goblets of the former taken during the day had a much more powerful diuretic effect than a gallon or more of cold water. As to his cases being rendered unsatisfactory by the fact that he had employed a special diet and other remedies in addition to the hot water, he would only say that notwithstanding the diet and the other remedies the patients did not improve until after the hot-water treatment had been commenced. It was a mistake to suppose, as many of the gentlemen who had spoken seemed to do, that this agent acted *only* in a very gradual manner. It was true that it sometimes took six months to secure the full effect of the remedy, as seen in the marked and permanent improvement in the nervous symptoms present, but in reality it had a very rapid action, the effect on the circulation of the skin and the kidneys being immediate. In regard to its action on the cerebral circulation, whether hyperæmia or anæmia were present, its tendency certainly was to restore it to its normal condition. Such was the fact, however the *modus operandi* might be explained. Dr. Ranney replied in the negative to a question as to whether he had ever noticed (1) a marked loss of the power of absorption and assimilation with rapid inanition, and (2) a tendency to internal hæmorrhage in those long accustomed to the internal use of hot water. These conditions he had himself seen more than once in patients at Saratoga, where he practiced during the summer, and the late Dr. F. D. Lente had observed the same thing.

Before the Academy adjourned DR. C. R. AGNEW called attention to

A NEW LOCAL ANÆSTHETIC,

the hydrochlorate of cocaine, to which reference had been made in a recent letter written from Germany to the *Medical Record* by Dr. H. D. Noyes, and which he had used with complete success in fifteen or sixteen operations upon the eyes during the past week. The form in which the drug was used was a two per cent. watery solution, which was dropped in the eye.

Recent Literature.

The Medical Graduate and His Needs. By GEORGE C. WELLNER, M. D. Detroit: George S. Davis. 1884.

This little book of primer proportions is designed by its author chiefly for students and young practitioners, but, he suggests, may be read with profit by "children of a larger growth." There is, undoubtedly, much that is wise and much that is true to be found in these pages, but less novelty of language, greater simplicity of style, a more careful revision of proofs, would make it more useful to readers for whom it is designed.

On page 24 we find "calamatous;" page 26, "to act the medical histrion," "derisive dread;" page 28,

"nothing is so well calculated to do this than the statement," etc., "the subject of misdiagnosis," "to misdiagnosticate a disease," "preadmonished;" page 30, "exertive efforts," "macaronic compounds," "medical abecedarian;" page 32, "the young physician should accustom himself to the use of the stethoscope, as there remains no longer an excuse for burrowing the side of one's face in the chest of the patient and thus, auscultation, circumscribe it;" page 66, "let him ween himself fortunate if the halcyon days of his sinecurism," etc., etc.

Medical and Surgical Journal.

THURSDAY, OCTOBER 16, 1884.

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INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE.

IN a disjointed and unmethodical manner a quasi collective investigation of disease is always being carried on by hospital reports, by the published transactions of medical organizations, and by the meetings of societies and associations, but it has long been felt that more than this was not only desirable but possible.

Several earnest enthusiasts in England, among whom Professor Humphrey, of Cambridge, and Drs. Ransome and Mahomed deserve prominent mention, after agitating the subject in addresses and articles on various occasions, determined to attempt an organization for the prosecution of collective investigation on a large scale. The British Medical Association was appealed to at its meeting in Cambridge in 1880, the suggestion was favorably entertained, and a committee appointed to report a plan for carrying out such a work with the support of the Association's funds and *Journal*. In consequence a committee of seven, known as the Combined Observation Committee, with a secretary, has been annually appointed, and a thorough organization of branches ramifying through the Association been effected. The first issue of the *Collective Investigation Record* was published in July, 1883, and a second number this summer. Many of the best men in London and elsewhere have thrown themselves into the movement with a zeal and earnestness deserving of the highest praise, whatever the results accomplished.

We believe this JOURNAL was the first in this country to direct attention to the efforts being made by our British brethren, and we have watched with pleasure the growth and development of the movement. The subject was brought before the American Medical Association by Dr. J. S. Billings at its annual meeting in 1883, and referred to a committee, of which Dr. N. S. Davis, of Chicago, was appointed chairman. It was also brought last year before the Berlin Medical Society, referred to a committee upon which were Professor Frerichs, Drs. Fränzel, Ewald, Leyden, Löwenstein, and Börner, and an organization effected which is already at work. In other European countries attention has been attracted to what has been done in England and Germany, and the advisability of imitating their example has been under consideration.

To take advantage of and to encourage this growing interest in the subject of collective investigation for a unification and consolidation of aims and methods, the general meeting of the International Medical Congress, held at Copenhagen on August 14, 1884, upon propositions made by Sir James Paget, Professor Ewald, of Berlin, Professor Bouchard, of Paris, and Dr. Billings, of Washington, passed the following resolutions: —

(1.) That an International Committee be formed for the Collective Investigation of Disease in connection with the work of the International Medical Congress.

(2.) That the following gentlemen do represent their respective countries thereon: As representatives of Denmark, Professor Trier, of Copenhagen, Prof. C. Lange, of Copenhagen; Scandinavia, Dr. E. Bull, of Christiania; Russia, Dr. Rauchfuss, of St. Petersburg; Germany, Professor Ewald, of Berlin, Professor Bernhardt, of Berlin; Austria-Hungary, Professor Schnitzler, of Vienna, Professor Pribram, of Prague, Professor Korányi, of Buda-Pest; Switzerland, Professor D'Espine, of Geneva; France, Professor Bouchard, of Paris, Dr. Lépine, of Lyon; Great Britain and Ireland, Sir William W. Gull, Bart., Professor Humphrey, of Cambridge, Dr. Mahomed, of London; British India, Sir Joseph Fayrer, K. C. S. I.; United States, Professor Jacobi, of New York, Prof. N. S. Davis, of Chicago; South America, Dr. Gutiérrez-Ponce, of Paris. As Secretary-General, Dr. Isambard Owen, of London.

At the same time the Secretary was instructed to prepare a statement as to the objects of the committee for translation and publication in the medical journals of the various countries represented. A copy of this statement will be found in full on another page of this issue of the JOURNAL.

Having always warmly approved of the project for collective investigation of disease since its first inception in England, we gladly give publicity to this attempt at an international extension of the same, commending it to the thoughtful attention of our readers.

We cannot sympathize with those who sneer at or discourage any earnest disinterested efforts to promote coöperation in the advancement of medical knowledge and the promotion of our art to the dignity of a science, however great the task, however inadequate the means, however certain the failures and disappointments. But the present movement, both abroad and at home, starts out under no mean auspices, and if supported elsewhere with the same energy as has been manifested by its early promoters cannot fail of greatly advancing medicine and the medical profession.

Mistakes will undoubtedly be made, and much chaff will doubtless be gathered along with the grain; but the mistakes may themselves be fruitful for instruction, and the separation of the chaff from the wheat be turned to profit. The work of medical men, as a rule, is necessarily too isolated and solitary, and the majority of men in active practice have neither the opportunity nor the stimulus for comparison and collaboration of methods and results before any other tribunal than that least qualified of all, — the general public. Men who now think they have no time to record their cases may be quickened; those who do not know how may be assisted by forms and taught by the merits and defects of others. To some it occurs to observe things not presented to others, or to see what others overlook. Different interpretations may be put upon the same fact by different observers. The same diseases in different countries present themselves under different guises, as modified by climate, by race, by customs. A simplification and unification of nomenclature of disease, as of weights and measures, would be a not impossible outcome of a vigorous and successful prosecution of the present movement.

We are by no means blind to the difficulties or sources of failure involved in a national or international collective investigation of disease; but no faint heart ever yet won a fair lady, nor have the so-called impregnable positions been carried by folding the hands and reciting a list of the obstacles and previous failures.

"PRACTICAL RECOMMENDATIONS FOR THE EXCLUSION AND PREVENTION OF CHOLERA."

AMONG our Society reports this week is to be found quite a full account of the Conference of State Boards of Health held at St. Louis last week, simultaneously with the meeting of the American Public Health Association. This is the second annual conference of our State Boards of Health, and it was understood that the special subject of the occasion would be the drafting of recommendations for practical steps to be taken by national and local authorities to prevent the introduction and dissemination of cholera in this country in view of its prevalence in Europe.

The question is such a vital one, and the part to be acted by these State Boards, should the country be brought to face it in earnest, is so important, that we have not grudged the space which the report occupies, and have given the recommendations and suggestions finally adopted by the Conference and accepted by the Public Health Association, without abbreviation.

The representatives of interior States and of those on the seaboard necessarily take somewhat different views of the value of quarantine and of the relative reliance to be placed upon external and internal quarantine. There appears in the recommendations adopted a desire to harmonize conflicting views, and to secure the coöperation of all concerned.

There will always be the inclination to place the responsibility for the introduction of a disastrous epidemic at some remote point, and upon some one else's shortcomings. States situated in the Mississippi Valley feel that New Orleans should protect them from and not furnish them with yellow fever. Illinois is, naturally, aggrieved if New York and Boston send unvaccinated immigrants, with small-pox contagion among them, by through trains to her borders. In some degree in these matters there is cause for complaint, in some degree fear and feeling and an unwillingness to put things to rights at home have at times usurped the place of reason and judgment.

If external quarantine could exclude cholera from a country it would offer a comparatively simple solution of a great difficulty; but it never has and never will do so. Much may be done by inspection and disinfection of passengers, of their effects, which, notwithstanding Dr. Rauch's individual experience, are dangerous, of their transports (not of cargoes); but even in this, more reliance must be placed upon the intelligent judgment and good sense of trained inspectors than upon any rigid regulations. A cut-and-dried external quarantine, whether long or short, is and has been over and over again proved to be worse than useless. It is always sieve-like and is repulsive to the intimate and intricate commercial relations of the present day. Italy and Spain have just furnished fresh illustrations — if such were needed — of its worthlessness. Moreover, reliance is placed upon quarantine just in so far as communities are conscious of their own sanitary deficiencies; and conversely just in so far as reliance is placed on quarantine are communities negligent about local sanitation.

When it comes to internal quarantine and *cordons sanitaires* no language is too strong to describe their folly, and we heartily sympathize with the position taken at the Conference by Drs. Chancellor and Holt upon this point, though we protest against the statements of the former as to the diffusion of the cholera poison through the atmosphere.

A good water supply, good drainage, wholesome living, a tranquil spirit, these are the true safeguards against cholera preëminently, as against sundry other epidemic disorders in a lesser degree. These are the agents dreaded by microbes with pathological tendencies, whether presenting themselves in the bacillar or the spirillar forms, or as hybrids with comma-like extremities.

THE TICHBORNE CASE AND MEDICAL EVIDENCE.

THE release of the Tichborne claimant from prison after the expiration of ten of the fourteen years of his penal sentence marks the conclusion of another stage of this *cause célèbre* which has lessons of importance regarding the value of evidence in medico-legal questions.

The main features in this case are doubtless familiar to our readers. Roger Tichborne, an eccentric and not over intelligent young man of twenty-six years, left England in April, 1854, for a foreign tour. The vessel on which he sailed was said to be lost with all

on board. Lady Tichborne, the mother, refused to believe that her son was dead, and after twelve years of advertising for information of Roger a claimant of the name appeared in England with his wife and child, was seen and recognized by numerous attachés of the Tichborne estate as the missing man, and went to Paris, where he was unhesitatingly recognized by the old lady as her missing son, and so announced at the British embassy. The claimant was given a liberal allowance by his supposed mother, who continued to live with him with great comfort to herself till the day of her death, which happened in March, 1867. Other members of the family, however, considered him an impostor. He laid claim in 1871 to the estates, valued at £25,000 a year. This caused the first of the two memorable suits. In this action dozens of persons swore definitely to his identity with Roger Tichborne, and as many testified with equal positiveness to his not being that individual, some of them saying, moreover, that he was one Arthur Orton, a butcher of Wapping, who had been an associate of the lost Roger, and had gone, at about the same time with the latter, to Australia. After a trial lasting over a hundred days the plaintiff was nonsuited, and was then at once arrested for perjury and forgery. His friends and supporters, who were many, and who had contributed liberally towards the expenses of the suit, now furnished bail, and the trial came on in 1872 before Lord Chief Justice Cockburn and two other justices. This trial lasted 190 days, and is said to have cost the government no less than £300,000.

The theory of the prosecution was that the claimant was not Sir Roger but Arthur Orton. For the defense 132 persons made oath distinctly that the claimant was Tichborne. Of these 110 swore that Tichborne as they knew him before 1854 had dark-brown hair; thirty-seven swore that he had small hands; thirty-five that he had small feet; seventy-nine that he had an "in-turned knee"; eighty that he had a twitching of the eyebrows, and thirty-four that he had no marks of small-pox. The claimant had dark hair, small hands and feet, an "in-turned knee," twitching eyebrows, and no pock-marks. Seventy-five witnesses were then called who had known Arthur Orton, who all testified that he had light hair (in which they were supported by eleven government witnesses); sixty swore that he had large hands; fifty-two that he had large feet; fifty-one that he had high cheek bones; seven that he had light blue eyes; and twenty-eight that he had marks of small-pox. There was, however, enough opposing evidence to convince the jury that the claimant was no other than Arthur Orton; and he was found guilty, as charged, of perjury and forgery, and was sentenced seven years for each offense. The term was shortened a quarter for good behavior as is customary, and he has served ten years.

Meantime the friends of the claimant set to work to prove that he was not Arthur Orton, and they claim to have now established these facts: That Arthur Orton lived in Australia under an assumed name by which he was traced with difficulty; that under the name Cresswell he married a widow, whom he told the day after his marriage that his real name was Arthur Orton, of Wapping: that Orton drank to excess and became insane; and that he is now in a lunatic asylum under the name of Cresswell; that two brothers of Arthur Orton who went to Australia for the purpose of seeing this individual unqualifiedly pronounced him to be their brother; that he in turn recognized them and called them by name in the presence of the asylum officials; that eighteen independent witnesses have testified to his identity with Arthur Orton; and finally, that the story told by this lunatic of the Tichborne claimant confirms the testimony of the latter regarding the true Orton.

The fact that the case has already been before the highest court in England may make a reopening of it impossible, even supposing this new evidence to be confirmed. But the fact which at present alone concerns us is that so very many witnesses in this case, from first to last, have sworn, and, presumably, with honesty, directly against each other. If the claimant is a fraud there is no ground for supposing that any considerable number of his witnesses are willful perjurers. Though, perhaps, a majority of the public acquiesced in the justice of the decision in these trials, yet a great number of individuals are still convinced that the claimant was wronged. The unreliability of much of the testimony to identity in the courts generally has been abundantly illustrated. Particularly in the case of dead bodies mistakes are constantly made, so that the possession of some visible deformity or other marked peculiarity is almost necessary to gain credence for necroptic identification. Every wholesale drowning or burning accident gives fresh proof of this. Points turning upon the mistaken identity of the living are frequent enough in every court record. But it is not often one sees such wholesale error as must have been made by one party or the other in the Tichborne case. It is a wise parent that knows her own child, yet in face of the testimony of the brothers and sisters and against the verdict we have the affidavit of the dowager Lady Tichborne (who was only prevented by death from giving her evidence in court), "I am as certain as I am of my own existence, and distinctly and positively swear that the plaintiff is my first-born son, the issue of my marriage with Sir James Francis Doughty Tichborne."

Finally, reproach is brought, and with some reason, against the widely variant testimony of different medical experts in any given case. Yet their disputes have often regard to matters of opinion, or if to facts, yet to facts requiring the most skilled and careful scrutiny for their proper observation. But in this great case hundreds of witnesses testified diversely as to the most obvious facts, such as the color of the hair, the presence of pock-marks. A few years' and even a few months' lapse plays great havoc with men's memories. The discrepancies in expert testimony are not to be too hastily ascribed to the bias of lucre. Imperfectness of observation accompanied by dogmatism of assertion is proved by such cases as the Tichborne trial to be but too common in every class, and though scientific training tends to free a man from

both these faults, yet there is enough of them left in average human nature to cause mischief in the investigation of difficult questions of fact or abstruse ones of opinion.

MEDICAL NOTES.

— Dr. Schweninger, of somewhat questionable repute, the medical attendant of Prince Bismarck, has been by distinguished influence foisted into the Berlin Medical Faculty. This body has had the spirit to make a protest against the appointment as unfit, but with what result remains to be seen. The premier's favorite was also made a member of the German Sanitary Board without any qualification for the post whatever, and against the protest of the director. Dr. Struck (also formerly a medical attendant on Prince Bismarck), who, in consequence, resigned his post. Dr. Koch has also, on account of some unpleasant circumstances connected with the affair, given up his seat on the Board, after having declined to be nominated as Struck's successor. It is to be feared that a conflict of this sort will be a terribly one-sided affair, but no other course seems compatible with the self-respect of the profession.

— Dr. Richardson has been making some successful experiments for the painless extinction of animal life. The electric shock did not prove sufficiently safe, says *Science*, so Dr. Richardson sought for an anæsthetic agent which would make death rapid as well as painless. He successively experimented with nitrous and carbonic oxides, ether, chloroform, coal-gas combined with chloroform, all of which more or less fulfilled their end. The results have been very satisfactory as carried out at the London home for lost dogs, where a chamber was charged with carbonic oxide, the gas having been previously passed over a porous surface, from which it took up vapor containing chloroform. Into this chamber was introduced a cage containing the dogs, which in a very short time passed from life to death in a profound sleep, without evincing the slightest pain or consciousness. Dr. Richardson has also administered the same narcotizing agent to sheep, so as to allow of their being killed in a perfectly painless manner; and he hopes that before long there will not be an abattoir in England without facilities for employing the system.

NEW YORK.

— The first annual meeting of the New York State Medical Association will be held at the new Murray Hill Hotel, on Park Avenue, on the 18th, 19th, and 20th of November. The annual address will be delivered by the president, Dr. Henry D. Didama, of Syracuse, the address on Surgery by Dr. E. M. Moore, of Rochester, the address on Obstetrics and Gynæcology by Dr. T. Gaillard Thomas, and the address on Medicinal and Non-Medicinal Therapeutics by Dr. Austin Flint, Sr. Among the papers to be read are the following: A New Procedure in Paracentesis Thoracis, by Dr. Thomas F. Rochester, of Erie County; A Case of Tubal Pregnancy, by Dr. Nathan Bozeman, of New York; Insanity: Preventive Measures, by Dr. John P. Gray, Superintendent of the State Lunatic Asylum at Utica; Excision of the Knee in Preference to Amputation in certain Deformities of the Leg, by Dr. Stephen Smith, of New York; Some Points in the Management of Breech Cases, by Dr. William T. Lusk, of New York; Abscess of the Liver, by Dr. E. G. Janeway, of New York; Diphtheritic Croup, by Dr. J. Lewis Smith, of New York; Typical Cases of Diabetes Mellitus not before reported, by Dr. A. Flint, Jr., of New York; and Report of a Case of Ligature of the Primitive Iliac Artery for Diffuse Aneurism of the External Iliac Artery, by Dr. J. W. S. Gouley, of New York. On the evening of November 20th the Fellows residing in New York County will entertain the Association at a banquet in the south grand hall of the Murray Hill Hotel, and on the morning of the 21st there will be surgical operations in the amphitheatre of Bellevue Hospital, followed by a demonstration of the application of the plaster-of-Paris jacket in the treatment of spondylitis and lateral curvature of the spine, by Dr. Lewis A. Sayre, after which an excursion will be made to the hospitals and other institutions on Blackwell's, Ward's and Randall's Islands under the charge of the Commissioners of Charities and Correction.

— On the 4th of September a boy ten years of age, who had been bitten by a Spitz dog in July, died of hydrophobia under the care of Dr. J. R. Cypert.

— Mr. Henry Lamb, of Rochester, has given $2000 to be distributed in prizes for essays on sanitary topics, and at the Public Health Convention in St. Louis last week the committee having the matter in charge reported that $500 would be awarded for the best paper on each of the following subjects: Healthy Houses and Food for the Working Classes; The Sanitary Condition and Necessities of School-Houses and School-Life; Disinfectants, and an Individual Prophylactic Agent for Infectious Diseases; and Appliances and Means for Saving Life and for Protection against the Injurious Influences of Certain Work and Occupations on Health. All competing essays must be sent in by April 1, 1885. At this meeting Dr. A. N. Bell, of Brooklyn, read the report of the Committee on Epidemics, in which it was claimed that in New York and other large cities epidemics had repeatedly been satisfactorily controlled by the observance of strict sanitary precautions.

On the 22d of October an open competitive examination, under the New York State Civil Service rules, was held at the New York Academy of Medicine to fill vacancies in the regular medical staff of the Hudson River State Hospital for the Insane at Poughkeepsie, for the positions of first assistant physician at an annual salary of $3000 and board, and third assistant physician at an annual salary of $1000 and board. The subjects on which the examination was made were of two classes, general and medical, and those comprised in the latter were the following: *Obligatory.* Theory and practice of medicine, therapeutics, clinical medicine, anatomy, physiology, and pathology of the brain, and psychological medicine. *Optional.* Use of

the microscope and instruments of precision, medical chemistry, sanitary science, special branches of medicine, experience in the care and treatment of the insane, and experience in the management of institutions for the insane.

— At a meeting of the trustees of the College of Physicians and Surgeons, held on Saturday evening, October 18, it was officially announced that Mr. Wm. H. Vanderbilt had given to that institution, as a building fund, the sum of $500,000, which is probably the most munificent donation ever made to a medical school. It is stated that a site, including twenty-nine city lots, on Tenth Avenue, between Sixty-eighth and Sixty-ninth Streets, has already been secured, and that building operations will soon be commenced. This location is in the vicinity of the Roosevelt Hospital, but is remote from the large public hospitals, Bellevue and Charity.

Correspondence.

"DIPHTHERIA SPREAD BY ADULTS."

Plattsburg, N. Y., *October* 13, 1884.

Mr. Editor, — The article in your issue of the 9th inst. entitled, "Diphtheria Spread by Adults," ought not to pass by without a protest or at least some form of a denial. Dr. A. Jacobi's views on diphtheria, according to that article, are full of vagaries and contrary to clinical facts. The chief harm that can come from them is that some people *may* believe them. If this, his "cannon ball," be accurately aimed, there would be nothing left for the "pistol bullet" to destroy. In the first place there is no reasonable doubt that diphtheria is contagious. That it is invariably so has not yet been proved, and probably never will be. The isolated, solitary cases often appearing in the country, in which no possible source of contagion can be traced after careful investigation, are pretty good evidence that diphtheria may, in some instances, have a spontaneous origin.

In the second place, "what has been called follicular tonsillitis is" *not* "mostly diphtheria." There are cases of sore throat so mild and so peculiar that it is difficult to decide positively what their true character is. But these cases are so few that they do not constitute even a *respectable* minority.

In the third place it is very far from the truth that "There is as much diphtheria out of bed as in bed; nearly as much out of doors as in doors." Of course it is probable that some of Dr. Jacobi's "mild cases of diphtheria" which "have continued six or even nine months" may be out of doors before complete recovery. No one denies that all reasonable precautions should be taken to prevent the spreading of this terrible disease. The "nares and throats of all attendants and help" should be examined. So also "the sick nurses, the cooks, teachers, hair-dressers, and barbers, shopkeepers and restaurant keepers" should be looked after. But why stop here? Why not station special examiners on all street corners, in all railroad stations, at all country cross roads, and in numerous other places, so that those "who are in constant contact with all classes and ages," and especially those "who are out of bed and out of doors" may be kept from a possibility of spreading any possibly contagious disease? Perhaps some labor-saving machine could be invented and used that would facilitate these examinations.

Yours truly, D. S. Kellogg, M. D.

Miscellany.

THE FOLLIES OF QUARANTINE.

The *British Medical Journal* (October 4th) discourses forcibly, and in the same vein as our own editorial of September 25th, on the uselessness of the cordons by land and sea which have been substituted by the cholera-threatened cities of Southern Europe for the cleansing and disinfection of their own filthiness, which alone can check the epidemic. It says that the medical profession in France and Italy, as a body, has disapproved of these measures, following the opinion of German sanitarians, as expressed by Virchow, that the experiences of 1830 exploded all confidence in such cordons.

"In the *Annales d'Hygiène Publique*," continues the *Journal*, "that able French sanitarian Dr. Du Claux has recently lodged a complaint against the violent and vexatious measures of quarantine leveled by Italy and Spain against France. Not content, he says, with imposing ten days' quarantine at all their ports, they have established a useless land quarantine on the frontier; every pass in the Alps and Pyrenees is guarded with patrols, and travelers are crowded into filthy lazarets for seven days. Quoting from the *Temps*, he shows that prohibitive measures in Italy were from the first day pushed to absurd extremes. The papal Nuncio remains at Paris unable to pass the frontier. The French Ambassador is there too, for to reach the Quirinal he must pass eight days in the barracks of Bardonnechia, and risk being shot at by peasants and sentinels if he dares even to look over the walls. The lazarets of Italy have been crowded with 7000 miserable inhabitants; none of them, strangely enough, have been seized with cholera; yet, with all these vain, obstructive, and vexatious precautions, cholera has broken out more severely in Naples than elsewhere. In Spain the lazarets are filled to overflowing; it is not merely a question of spending seven days in them, the traveler has to wait a week for the chance of it.

"But Dr. Du Claux does not only inveigh against the follies of Italy and Spain. He strongly condemns as impracticable the attempt to put a *cordon* about Toulon. 'My humble opinion,' he adds, 'is that if the gates of Toulon had been shut the inhabitants would have passed under its walls.' It would, indeed, be difficult for any sanitarian to justify the acts of folly that have been committed through panic in France. Though it was well known that within ten days from the first outbreak two thirds of the inhabitants of Toulon and Marseilles had fled from their cities, many of them to Paris, which has remained singularly free from the epidemic, yet, at Lyons, every passenger from the south continues to undergo a mysterious rite. For a quarter of an hour a spray of carbolate of soda is played upon him, and then he is allowed to go free. In other towns the hapless visitor is shut in a room with sulphur heaped on live coals. Those of us who have seen cholera, and those who heard Dr. Norman Chevers tell us at the recent Social Science meeting at Birmingham that, during thirty years' experience in

India, he had never seen a single case of contagion, may smile at these simple attempts to destroy bacilli which, if anywhere, are deep in the intestinal canal, but those who have experienced these fumigations cannot smile. English invalids have received a scare that will be difficult to overcome. They might take their chance of cholera, but the lazarets and fumigations are intolerable. In truth each nation appears to distrust the other. Reprisal quarantine has reached its climax, commerce is deplorably disorganized, and the absurdity of the triangular duel between France, Italy, and Spain is admitted almost as openly by the sanitarians of these nations as by the English and Germans.

"Meanwhile, in England, there has been neither cholera nor panic of cholera, and there has been no disturbance of commerce. When one cholera ship from Marseilles arrived at Cardiff, and another at Liverpool, the measures taken by the Local Government Board were amply sufficient to prevent any outbreak. With us, quarantine, whether by land or sea, is wholly discredited. Any vessel may discharge its cargo at any port. Of course if there be cholera on board, there is a medical supervision of the sick man; but the destruction of cargoes and detention in lazarets, which is universal in the Mediterranean ports, is here unknown. Of land quarantine, English sanitarians have really no personal experience. It is known to have failed in India, and it has been rejected as useless in Germany. But no nation has so much evidence of the inutility of port quarantine; and whenever an international conference may be called we shall be ready with proof that cholera is but rarely carried in ships; that, as Von Pettenkofer insists, it dies away after a fortnight's voyage; and that medical supervision of the sick, together with adequate sanitation, are the best methods for preventing an epidemic. M. Clemenceau says it would be more easy to revise the Constitution than to cleanse Toulon; yet it is a task to which the inhabitants must ultimately devote themselves if they would keep out cholera."

STATEMENT RELATING TO THE INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE, PROPOSED AT THE INTERNATIONAL MEDICAL CONGRESS AT COPENHAGEN.

THE main objects which the Committee seeks to attain through the Collective Investigation of Disease are to widen the basis of medical science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation, and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of medicine rests, such as Chemistry and other branches of Physics, Physiology, and Pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It cannot be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold, that no single man, however gifted and long-lived, can hope to bring the whole within his range. The need, therefore, in medicine, of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, cannot be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our Committee to supply.

Disease is many-sided, and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the army and navy, and of workhouses and asylums, will be asked to contribute their quota of observation to the common fund.

In England and in Germany organizations for this purpose already exist, through which good work has been accomplished, and a volume entitled the Collective Investigation Record, containing tabulated returns, with reports upon them and other matter, is published annually by the British Medical Association. France and Austria are alive to the importance of the new method. In Scandinavia and in the United States the foundations of associations have been laid. Denmark, Russia, and Switzerland are setting their hands to the task. To unite these several associations by an international organization for the study of various problems, and to induce the formation of similar combinations elsewhere is felt to be a work peculiarly befitting an international congress. Our Committee is enjoined by the Congress at Copenhagen to endeavor to carry out this work, and in compliance with that injunction it invites the coöperation of all who have at heart the promotion of medical science and practice.

The following is the proposed method: A subject having been selected, a person or persons of acknowledged authority will be asked to write a memorandum, in the form of a short essay, upon it. The memorandum will succinctly give the present state of our knowledge. It will also point out the directions in which further research may best be made, and with this view will suggest a few simple and definite questions upon the subject selected. The questions will relate to matters of fact, to be elicited by observation of cases, rather than to matters of opinion.

The contemplated organization will, it is hoped, in time enable the committee to ask and collect answers to these questions from the profession at large wherever scientific medicine is studied or practiced. It will be a further duty to examine, arrange, tabulate, and deduce results from the mass of observations thus collected, due credit being given to each contributor for the information he has furnished, and reports on the results of the several investigations will be laid before the International Congress at its next meeting at Washington.

ISAMBARD OWEN, *Secretary-General.*

5 HERTFORD STREET, MAYFAIR, LONDON.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 11, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	621	287	28.16	17.60	15.84	2.46	5.63
Philadelphia	927,995	328	118	30.80	19 80	4.84	4.84	15.28
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	200	104	32.50	7.00	13.30	4.50	10.00
Boston	423,800	206	87	27.89	14.07	14.55	3.39	5.33
Baltimore	408,520	164	67	24.40	16.47	7.32	4.27	8.54
St. Louis	400,000	152	54	34.17	5.91	10.20	5.91	12.48
Cincinnati	272,400	89	28	23.52	13.44	6.72	2.24	2.24
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	81	31	25.83	14.76	7.38	8.61	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	50	26	30.00	10.00	16.00	4.00	4.00
Providence	119,405	33	13	33 33	6.06	21.21	9.09	—
New Haven	62,882	25	10	20.00	24.00	8.00	4 00	4.00
Nashville	54,400	31	9	35.44	19.33	12.88	16.11	—
Charleston	52,286	34	6	32.34	8.82	8.82	—	2.94
Lowell	71,447	20	7	25.00	15.00	15.00	—	5.00
Worcester	69,442	22	8	27.24	9.08	9.08	4.54	—
Fall River	62,674	27	11	37.03	14.00	22.20	11.10	—
Cambridge	60,995	19	6	15.78	31.56	10.52	5.26	—
Lawrence	45,516	11	6	27.27	36.36	9.09	—	9.09
Lynn	44,895	15	5	6.66	—	—	6.66	—
Springfield	38,090	7	5	28.56	28.56	14.28	—	14.28
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	14	7	28.56	7.14	14.28	—	14.28
New Bedford	30,144	9	1	22.22	33.33	11.11	11.11	—
Salem	29,503	14	8	28.56	—	28.56	—	—
Chelsea	24,347	13	5	46.14	15.38	23.07	7.69	7.69
Taunton	22,693	—	—	—	—	—	—	—
Gloucester	21,400	5	2	—	—	—	—	—
Haverhill	20,905	3	1	—	—	—	—	—
Newton	19,421	6	2	16.66	16.66	—	—	—
Brockton	18,323	6	2	33.53	16.66	16.66	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	3	1	33.33	33.33	33.33	—	—
Fitchburg	13,433	4	0	—	—	—	—	—
Eighty-seven Massachusetts towns	333,907	71	10	16.92	23.97	8.46	7.05	—

Deaths reported 2283 (no reports from Brooklyn, New Orleans, and Buffalo): under five years of age, 927; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 613, consumption 313, diarrhœal diseases 254, lung diseases 176, diphtheria and croup 149, typhoid fever 86, malarial fevers 53, whooping-cough 24, cerebro-spinal meningitis 12, scarlet fever 24, measles seven, puerperal fever two. From *malarial fevers*, New York 16, St. Louis eight, District of Columbia and Charleston seven each, Baltimore five, Philadelphia and Chicago four each, Nashville two. From *whooping-cough*, New York 10, Boston four, Chicago and Baltimore two each, St. Louis, Cincinnati, Providence, New Haven, Worcester, and Lawrence one each. From *scarlet fever*, New York and Philadelphia five each, Boston and Baltimore four each, St. Louis, District of Columbia, Milwaukee, Worcester, Chelsea, and Merrimac one each. From *cerebro-spinal meningitis*, New York three, Philadelphia two, Boston, Milwaukee, Lowell, Worcester, Fall River, Newton, and Brockton one each. From *measles*, New York six, Cincinnati one. From *puerperal fever*, Boston and Milwaukee one each.

Cases reported in Boston: typhoid fever 69, scarlatina 63, diphtheria 30, and measles two.

In 104 cities and towns of Massachusetts, with an estimated population of 1,326,946 (estimated population of the State 1,955,104), the total death-rate for the week was 17.84 against 18.58 and 23.01 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending September 27th, the death-rate was 19.1. Deaths reported 3200: infants under one year of age 954; acute diseases of the respiratory organs (London) 162, diarrhœal diseases 354, scarlet fever 67, fever 63, measles 48, whooping-cough 42, diphtheria 24, small-pox (London 10, Liverpool, Sheffield, and Sunderland one each) 13. The death-rates ranged from 14.4 in Norwich to 28.8 in Preston; Birmingham 18.2; Blackburn 26.9; Bradford 22.7; Leeds 24.2; Leicester 21.6; Liverpool 25.1; London 16.1; Manchester 25.1; Nottingham 18.3; Sheffield 21.9. In Edinburgh 19.5; Glasgow 24.9; Dublin 30.2.

For the week ending September 20th, in the Swiss cities, there were 16 deaths from consumption; diarrhœal diseases 13, typhoid fever five, lung diseases four, measles, scarlet fever, and diphtheria each one. The death-rates were, at Geneva 6.1; Zurich 7.9; Basle 7.0; Berne 22.2.

The meteorological record for the week ending October 11th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Oct., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 5	29.927	60	72	55	68	61	78	69	NW	E	W	18	9	3	C	C	C	—	—
Mon., 6	29.851	56	65	46	85	78	91	85	W	W	NE	2	10	3	F	F	C	—	—
Tues., 7	29.851	58	67	48	66	52	71	63	NW	NW	NW	19	23	10	C	C	C	—	—
Wed., 8	29.794	59	68	46	82	53	90	75	W	SW	W	13	9	10	F	F	R	—	—
Thurs., 9	30.095	47	61	41	58	36	63	53	N	NW	NW	21	10	8	C	C	C	—	—
Fri., 10	30.241	50	61	36	60	40	62	54	W	SW	SW	10	8	9	C	C	C	—	—
Sat., 11	30.093	62	73	48	67	33	84	61	SW	SW	SW	8	19	16	C	F	C	—	—
Mean, the Week.	29.979	43.4	66.6	45.7				64.4										5.35	0.10

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY FROM OCTOBER 11, 1884, TO OCTOBER 17, 1884.

NORRIS, BASIL. lieutenant-colonel and surgeon. Relieved from duty as attending surgeon, Washington, D. C., and ordered for duty as medical director, Division of the Pacific, and Department of California, relieving Surgeon E. I. Baily. Colonel Baily, on being relieved, will assume the duties of attending surgeon at San Francisco, Cal.

SPENCER, WM. C., major and surgeon. From Department of Dakota to Department of the East.

GODDARD, CHARLES E., major and surgeon. To be relieved from duty at Jefferson Barracks, Mo., and to report for duty in Department of Dakota.

MCCLELLAN, ELY, major and surgeon. From Department of the East to duty at Cavalry Depot, Jefferson Barracks, Mo. S. O. 242, A. G. O., October 15, 1884.

MCKEE, JAS. C., major and surgeon. Granted leave of absence for one month, with permission to apply at Division headquarters for one month's extension. Paragraph 1, S. O. 149, Department of California, October 3, 1884.

LORING, LEONARD Y., captain and assistant surgeon. From Department of the East to Department of California.

HARVEY, PHILIP F., captain and assistant surgeon. From Department of Dakota to duty in attending surgeon's office, Washington, D. C., relieving

SHUFELDT ROBERT W., captain and assistant surgeon, who, on being relieved, will report to commanding general, Department of Missouri, for duty. S. O. 237, A. G. O., October 9, 1884.

PORTER, J. Y., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability, with permission to leave the limits of the Department. Paragraph 3, S. O. 138, headquarters Department of Texas, October 9, 1884. Confirms telegraphic order of same date.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING OCTOBER 18, 1884.

BRUSH, GEO. R., surgeon. To temporary duty at the Naval Laboratory. October 11, 1884.

BURBANK, CHARLES H., medical inspector. Detached from the Brooklyn, and placed on waiting orders. October 15, 1884.

CLARK, JOHN H., surgeon. Detached from the Lackawanna and detailed as Fleet Surgeon of the Pacific Station. October 17, 1884.

COOKE, GEORGE L., surgeon. To the Lackawanna. October 17, 1884.

EDGAR, JOHN M., passed assistant surgeon. To the Receiving Ship Franklin. October —, 1884.

HUDSON, A., medical inspector. Detached from the Lancaster and placed on waiting orders. October 14, 1884.

HUGG, JOSEPH, surgeon. Placed on waiting orders. October 13, 1884.

LOVERING, P. A., passed assistant surgeon. Detached from the Lackawanna and placed on waiting orders. October 17, 1884.

MARSTELLER, E. H., passed assistant surgeon. Detached from the Monongahela and ordered to the Lackawanna. October 17, 1884.

MARTIN, WILLIAM, assistant surgeon. Detached from the Passaic and placed on waiting orders. October 14, 1884.

MARTIN, H. M., passed assistant surgeon. Detached from the Brooklyn and placed on waiting orders.

AMERICAN ACADEMY OF MEDICINE. — The ninth annual meeting of the American Academy of Medicine will be held in Hopkins Hall, Johns Hopkins University, Baltimore, Maryland, Tuesday and Wednesday, October 28 and 29, 1884. Papers will be read by Drs. Peter D. Keyser, of Philadelphia, Penn.; Edward Jackson, of Philadelphia; Henry O. Marcy, of Boston; Albert H. Gihon, United States Navy; A. D. Rockwell, of New York; Benjamin Lee, of Philadelphia, Penn., President; R. Stansbury Sutton, of Pittsburg, Penn.; Virgil P. Gibney, of New York, N. Y.; Charles C. Bombaugh, of Baltimore, Md.; T. M. Ludlow Chrystie, of New York, N. Y.; Nathan Allen, of Lowell, Mass.; Herman Knapp, of New York, N. Y.; L. Duncan Bulkley, of New York, N. Y.; Richard J. Dunglison, of Philadelphia, Penn., and H. O. Marcy, of Boston, Mass.

BOOKS AND PAMPHLETS RECEIVED. — A Contribution to the Study of Coryza Vasomotoria Periodica, or So Called Hay Fever. By John N. Mackenzie, M. D., Surgeon to the Baltimore Eye, Ear, and Throat Charity Hospital. (Reprint from New York Medical Record.)

Cases of Reflex Cough due to Nasal Polypi, with Remarks. By John N. Mackenzie, M. D. Baltimore. (Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland.) 1884.

Transactions of the Medical Society of the State of West Virginia, Seventeenth Annual Session, May 21–22, 1884, Wheeling, W. Va. 1884.

Circulars of Information of the Bureau of Education. No. 5. 1884. Suggestions respecting the Educational Exhibit at the World's Industrial and Cotton Centennial Exhibition. Washington.

Proceedings of the Connecticut Medical Society, 1884. Ninety-third Annual Convention. Held at New Haven, May 28–29. New Series. Vol. III. No. 1. Published by the Society. S. B. St. John, M. D., Secretary. Hartford, Conn.

Fifth Annual Report of Sapporo Agricultural College, Japan. 1884.

International Medical Congress. Copenhagen. 1884. Prostatic Obstruction. By Reginald Harrison, F. R. C. S., etc.

Notes on the Surgical Treatment of Hematuria and Rupture of the Bladder. By Reginald Harrison, F. R. C. S. Edinburgh. 1884.

McGill University. Annual Calendar, Faculty of Medicine. Fifty-second Session, 1884–85. Montreal. 1884.

Handbook of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M. D. With Two Colored Plates. Philadelphia: P. Blakiston, Son & Co. 1884.

Original Articles.

TUMORS OF THE MALE BLADDER, WITH REPORT OF A CASE.[1]

BY DR. WATSON.

December 14th. The patient, aged sixty, has had a good family and personal history; has never had any illnesses of importance; has been free from any trouble of the genito-urinary tract until six years ago. At that time he passed by the urethra two small calculi without pain, and has passed none since. Shortly afterward began hæmaturia, slight in degree, the urine being more or less pink or red from the presence of blood uniformly diffused through it, and small blood clots being also occasionally present. This condition was constant, and has persisted ever since, varying, however, in intensity. The patient's health has not suffered until recently, nor has he had any other symptoms accompanying the condition until two months ago. Then began frequent and painful micturition, most marked at night. The frequency varied from three to six times during the night; in the day-time it was often normal. The pain was most noticeable before and during the act of micturition. The quantity of blood began to increase, and there were more clots. These symptoms were not augmented in severity by any kind of motion, being often worst at night when at rest.

The patient was a large, muscular man, and when first seen paleness, thinness, and a slightly yellow tinge of the skin were the only outward signs of disease.

A careful examination of the thoracic and abdominal organs gave negative results. Rectal examination showed that there was no prostatic enlargement. The bladder wall gave the impression of being slightly thickened and more resistant than normal. Nothing unusual could be detected by bimanual palpation of the bladder, and there were no enlarged glands to be felt in its neighborhood either while examining by rectum or otherwise. Palpation over the region of the kidneys, anteriorly and posteriorly, and along the course of the ureters showed nothing abnormal.

The pulse was fairly strong, the tongue clean. The patient had felt well enough to pursue his usual avocations until a day or two previous to my first visit, which was on December 14th.

From this time until the diagnosis was established the urine was frequently examined by me, and also by Dr. Gannett, and upon these examinations the diagnosis was made. Their results, though varying more or less, presented in the main the same important features, which may be embodied under one heading, as follows: —

Urine. Color, reddish-yellow, the degree and intensity of the red varying, but always present, and always arising from the admixture of fresh blood. Specific gravity 1013 to 1020. Reaction strongly acid. Odor normal. Urea, uric acid, chlorides, sulphates, earthy phosphates, alkaline phosphates generally normal. Albumen, about one eighth per cent., but varying with and corresponding to the quantity of blood present. Sediment large. On settling the supernatant fluid is still red. The sediment contained blood clots, whose shape, color, and consistency presented the characters of the clots of fresh hæmorrhage. The sediment also occasionally contained small bits of tissue having a fleshy appearance. Besides these constituents were found fresh red blood corpuscles, leucocytes, and polymorphous cells in the greatest variety, many of which had very large nuclei, physalids, bacteria, and granular matter.

During the act of micturition the blood though present in the first was most conspicuous in the last part of the stream, the few final drops being sometimes pure blood.

The treatment during the first days was chiefly expectant.

Ten days after first visiting the patient he had an attack of retention of urine, due to profuse hæmorrhage, clots plugging the orifice of the bladder so as to prevent the natural escape of urine. The bladder was distended, its fundus reaching half way to the umbilicus. The retention was complete for twenty-four hours, during which the pain and vesical tenesmus were treated, in my temporary absence, by subcutaneous injections of morphia. At the end of this time the urine began to flow occasionally in small quantities, and on my return I found the bladder, though still considerably distended, much diminished in size. At the end of the next twenty-four hours the flow of urine was fully reëstablished. Nausea and loss of appetite occurred with the attack of retention, and persisted for several days, during which time there was also polyuria, the largest quantity in twenty-four hours being 2900 cubic centimetres.

Coincident with this attack began pain in the sciatic region of the left side, which was severe, and which lasted more or less persistently for some weeks, confining the patient to bed.

A week later, with Dr. C. B. Porter in consultation, the patient was etherized, and the bladder sounded. Its antero-posterior diameter was four inches, and its capacity large. Five hundred cubic centimetres of *residual* urine were present. This quantity was thought to be due, probably, to the attack of retention and consequent over-distention of the bladder. No stone was detected. The extremity of the sound in sweeping the vesical cavity revealed to the touch nothing abnormal. Examination of the bladder wall (so far as it could be reached) between one finger in the rectum and the sound in the bladder gave only the impression of slight thickening. The sound was then withdrawn, and the bladder washed out through a soft catheter with water at the temperature of 114° F., and with Sir Henry Thompson's borax solution.

After recovering from the ether the frequency of the desire to micturate was less. A slight rise of temperature followed the examination, and lasted for three days. Hæmorrhage was not greater than hitherto.

On the following day the bladder was irrigated for half an hour with water at 115° F., and this treatment was followed for two weeks daily with great relief to the patient, sciatic and vesical pain and frequency of micturition disappearing under its use, and the quantity of residual urine gradually diminishing until at the end of the two weeks there were only two ounces. The amount of blood in the urine also became much less, the urine being occasionally almost clear. During this time the patient was given a nourishing diet and tonics, under which and with the diminution of the local symptoms his condition decidedly improved.

In the washing following the sounding bits which resembled detached portions of a new growth were

[1] Read before the Surgical Section of the Suffolk District Medical Society, October 6, 1884.

found, and for certainty as to their character they were taken to Dr. Gannett for examination, and from him the following report was obtained: —

"The bits removed by washing out the bladder varied in size from a pin's head to a small pea, all presenting a gelatinous appearance. Microscopically they showed masses made up of finger-shaped projections with rounded, club-like extremities. After maceration in Ranvier's alcohol and staining with hæmatoxylon it was found that the centre or stem of each projection was a blood-vessel surrounded by several layers of cells having large, clear nuclei, and a comparatively small amount of protoplasm. In my opinion the masses described are portions of a new growth from the mucous membrane known as papilloma."

The diagnosis being thus far established, it was decided to perform the exploratory operation of the bladder, as recommended and practiced by Sir Henry Thompson, and to remove the new growth if possible.

The patient's condition at this time was fairly good; he was well enough to move about the house; had a fair appetite; all the organs except the bladder, so far as could be discovered, were functionating properly; the pulse was strong. There was *no evidence* of the disease being anything other than papilloma of the bladder.

On January 20th, five weeks after first seeing the patient, the operation was performed, Dr. Porter being in consultation; Drs. A. T. Cabot, J. W. Elliot, and Howard Lombard being also present, and kindly assisting.



I may, perhaps, be pardoned for entering somewhat into detail as to the steps of the operation, for the reason that although its procedures are simple, it has been as yet but little practiced in this country. A grooved staff, No. 24 (French), was passed into the bladder, and held in the median line. An incision was then made in the perinæum from one inch below the scrotum to within half an inch of the anus; further incisions in the same line exposed the urethra, which was opened at the bulbo-membranous junction, and divided backward to the prostatic urethra, which with the neck of the bladder were then gently dilated, by pushing first the little and then the forefinger through them. Strong downward pressure above the pubes now brought the whole interior of the bladder within reach of the finger, which revealed the fact that a very large portion of the inner lining was occupied by a sessile papillomatous growth, the surface of which was soft and friable enough to be broken down in places by the finger, and was very vascular, as shown by the hæmorrhage which followed this procedure. The condition was confirmed by examinations of the other gentlemen present. A dull plated copper curette of this shape was then passed in above the finger, and the removal of the growth was undertaken by this means, alternating with an instrument which I devised to act as a strong, long finger nail, a description of which will be given further on.

The growth was so extensive that, at the end of an hour, although much had been removed, there was also a good deal left. Hæmorrhage was free and constant during the operation. The bladder was three times thoroughly irrigated for a few moments with hot water at a temperature of 125° F., which answered the double purpose of stopping the hæmorrhage and of washing out detached fragments of the tumor and blood clots, which rendered the continued steps of the operation more precise.

At the end of the hour the patient was so weak from the loss of blood that it was thought unadvisable to proceed further with the operation, and he was put to bed. He made an excellent recovery from the shock of the operation.

The urine came away involuntarily during the first twenty-four hours through the wound. A drainage tube was then inserted into the bladder for thirty-six hours, but at the end of this time it caused pain and vesical tenesmus, which ceased upon its removal. Hæmorrhage sufficient to tinge the urine persisted for three days after the operation, after which it disappeared not to return until within three weeks of the patient's death.

Twenty-four hours after the removal of the drainage tube distinct acts of micturition were reëstablished; their frequency was only once in from four to six hours. At the end of a week the patient, so far as his bladder was concerned, was perfectly comfortable. Previous to this he had occasionally with micturition severe pain, referred to the end of the penis. The neuralgic pain in the left sciatic region had quite disappeared.

For nine days the bladder was washed out with a warm solution of corrosive sublimate one to 15,000. At this time there was again some bladder irritation, which ceased after changing the corrosive sublimate wash for a borax solution or hot water; these gave a sense of great comfort to the patient.

The urine for about a week after the operation smelt badly, contained a good deal of pus, and became neutral. Soon, however, the bad smell disappeared, the amount of pus diminished, and the urine became again acid.

During the first four or five days succeeding the operation several bits of growth were passed with the urine through the wound. On the thirteenth day the patient was out of bed, had a good appetite, and was apparently doing well in every way.

Three days later, owing to the outer part of the wound having been allowed to close too rapidly, a slight infiltration of urine about its edges and into the scrotal tissues occurred, which, however, subsided in a few days on reopening the wound superficially. Coincident with the infiltration of urine was a rise of temperature, reaching 105.5° F. on the evening of the second day, falling again to normal on the fifth day.

A marked diminution in the quantity of the urine *then* occurred, and hyaline and granular casts appeared for the first time. Under the use of diluents and diuretics the quantity became normal in a few days, and the casts slowly disappeared.

With the rise of temperature just spoken of occurred also a flatulent diarrhœa. The stools were nearly colorless, contained undigested food and some fat particles. This condition returned once or twice during the patient's illness.

Peat or fossil meal bags saturated with a solution of corrosive sublimate, 1 to 2000, were found a very useful dressing for the wound, catching and retaining the urine and obviating the annoying sense of wetness which would otherwise have taken place.

The rises of temperature were treated by aconite and morphia and quinine.

The diet was as strong and nutritious as possible for the patient to bear. The attacks of diarrhœa and flatulency were treated by a mercurial cathartic and subnitrate of bismuth, and tinct. cardamon comp., and changes of diet which seemed appropriate.

On the 23d of February, a little more than a month after the operation, I was obliged to leave the patient, and for the remaining notes of the case, as well as for his kindness in assuming the care of the patient, I am indebted to Dr. A. T. Cabot.

At this time the diarrhœa returned, but was soon relieved by gray powder and liquor pancreaticus. A week later a fluctuating swelling about the size of half a lemon appeared over the left posterior superior spine of the ilium; severe and constant pain in the same region accompanied this manifestation. Soon after the pain extended to both legs, being most marked in the right.

A digital exploration of the rectum at this time gave an increased sense of resistance to the finger on the right side of the pelvis, but no distinct tumor could be made out.

A little later the fluctuating swelling already referred to was aspirated and about two and a half ounces of dark bloody fluid were withdrawn; it refilled in two days. About the same period a distinct tumor was detected just above Poupart's ligament, on the right side, extending about one inch above it, and occupying about the middle two thirds of the space between the symphysis pubis and the anterior superior spine of the ilium. This steadily increased in size until the patient's death, when it reached half way to the umbilicus. Constant pain, delirium, rapid emaciation, and a steadily diminishing quantity of urine now became the prominent symptoms, and with them the patient quickly failed, and died on May 5th, about two months and a half after the operation.

In closing the report of the case I wish to lay especial stress upon the fact that the performance of the operation, even in this hopeless condition, almost relieved the two prominent and distressing symptoms, — hæmorrhage and vesical pain. As will be seen from the specimen which Dr. Gannett will show presently, the intrinsic nature of the case did not allow the hope that more could be accomplished.

There are about forty recorded cases of primary new growths of the male bladder in which operations with a view to their removal have been undertaken with varying success. Of this number eighteen have occurred in the practice of Sir Henry Thompson, four in that of Mr. Whitehead, of Manchester, while the rest of the series, beginning with the case of Corvillard in 1639, contains those of Crosse, Desault, Le Cat, Civiale, Gersuny, Liston, Billroth, Kocher, Volkman, G. M. Humphrey, Berkeley Hill, Marcacci, Davies Colley, Morgan, Ransohoff.

Beside these in the male subject are others in the female, numbering more than sixty.

Moreover, there are many more for which no operation was undertaken, but which, as pathological specimens, have afforded observers the opportunity for the study of their nature.

Sir Henry Thompson has been able to collect no less than fifty examples of primary growths of the bladder from the various museums of London, added to which number the twenty cases which have been in his own hands makes a total of seventy. It must, of course, be borne in mind that this observer has had more widely extended opportunities for making such a collection than any one else.

Within one year in this town six cases of this class of disease have come to my notice, two of which have been in my own care, and four in that of other surgeons. I have thought it worth while to cite these figures to accentuate the fact that primary new growths of the bladder are not of very great rarity, and this impression would be confirmed, I am sure, if we had more exact knowledge in regard to many cases which have died without autopsy, and with a diagnosis of hæmaturia simply, amongst which no doubt a certain proportion would be found in which the source of hæmorrhage was a new growth in the bladder.

In view of these facts, and of the decided impetus which the surgical treatment of tumors of the bladder has received in late years, and the much greater success which it has met with under improved methods and more accurate knowledge, it may be useful to try to briefly summarize what experience has already taught us in this direction, and the prospect for the relief of a very suffering class of cases which it offers.

The variety of tumors which have been found in the bladder are: (1) Papilloma, (2) fibroma, (3) epithelioma, (4) carcinoma, (5) sarcoma, (6) myxoma, (7) myoma, (8) enchondroma.

The last is quoted on the authority of a case published in the *Gazette Médicale de Paris* in 1836, but its nature is open to doubt.

About fifty per cent. of all tumors of the bladder are papillomas, which term is meant to express the benign growths, pedunculated or sessile, having branching papillæ of greater or less length, which consist of a capillary loop of blood-vessel covered with epithelial layers, which, being very tender, allow hæmorrhage to occur readily.

Almost any tumor of the bladder may have a papillated surface, with which the true papillomas should not be confused. Moreover, a papilloma may become with time a cancerous growth.

The other varieties of new growth occur in relative frequency in about the order named.

The most common seat of tumors of the bladder is about the trigonum, but they may occur in any portion of the bladder.

DIAGNOSIS AND SYMPTOMS.

The two most prominent symptoms of new growths in the bladder are hæmorrhage and vesical pain, though they may both be absent through the entire course of the disease.

Hæmaturia varies in respect to constancy, time of appearance, and quantity of blood lost, with the nature of the tumor. If the growth be a papilloma it is generally the first, the most pronounced, and most unfailing symptom. In malignant growths it is more likely to be preceded by pain and frequency of micturition.

Hæmaturia is sometimes the only symptom throughout the course of the disease. The quantity of blood in the urine varies from enough to slightly tinge it to severe hæmorrhage, blanching the patient and filling the bladder with clots. These generally have the appearance of being formed from fresh hæmorrhage. They lack any characteristic shape, and are not firm and decolorized, as those formed in the pelvis of the kidney or ureters sometimes are. If there be no urethral lesion, and blood appears at the end of the act

of micturition, the inference that it is of bladder origin is justified.

The hæmaturia may be intermittent or constant, and its appearance in greater or less amount may be noticed in every urination for a period of years, as in the case of this evening. Exclusive of papillomas, the constancy depends probably upon the extent of superficial erosion present.

Microscopically blood corpuscles present the characters of fresh hæmorrhages, but it is an interesting fact that this is not invariable, as I have had occasion to observe in one case, in which the corpuscles showed in several examinations of the urine the features which belong to blood which has remained for a long time in the urinary tract, and this, too, in a case in which no condition obstructive to the outflow of urine from the bladder, such as stricture or hypertrophied prostate, was present.

There was also an entire absence of vesical symptoms, and these facts led to the inference that the hæmorrhage originated higher up in the urinary tract than the bladder. The autopsy, however, disclosed two tumors of the bladder, one near the orifice of each ureter, which were the source of the bleeding. The absence of blood, on the other hand, does not preclude the possibility of the presence of a new growth in the bladder, as is shown in several cases of Stein's, in which large tumors were present, and yet no hæmorrhages had occurred at any time during the malady.

Pain and vesical irritability are symptoms of the next importance to hæmaturia, which they may precede or follow, or be coexistent with. As already stated, pain may be absent. Its presence and severity are due in part to the situation of the growth (being most marked when it is in the vicinity of the vesical orifice), in part to the nature of the disease. It may be felt in the end of the penis, in the perinæum, at the vesical neck, at the sacro-iliac synchondrosis, or in the sciatic regions, and often occurs quite independent of any form of motion or exercise. It varies in intensity from a slight stinging along the course of the urethra to the severer forms accompanying vesical tenesmus. When in the sciatic region it is apt to be on the same side as the growth, but this is not invariable. It is generally most marked at the end of micturition, but this, too, is not always the case, as in the instance reported to-night, in which the pain was often most marked when the patient was at rest and independent of urination. In some of the cases reported actual pain has not been present, but difficulty of micturition has been mentioned, and described by the patient as straining.

Frequency of micturition is often increased, and attains its greatest height in those cases in which necrosis of the growth occurs, and is accompanied by a serious form of cystitis. It will be seen, therefore, that the two most important symptoms of these new growths, hæmorrhage and pain, may vary greatly in degree, from being, indeed, entirely absent during the course of the disease to occupying the most prominent place.

As a further aid to diagnosis, and this is of especial interest in the early history of such cases, the *urine* should be carefully examined. These examinations may give us only a suspicion or the most positive proof of the presence of a new growth that can be furnished. The normal characters of the urine in the early stages of the malady, and sometimes throughout its progress, may be unaffected, except that the color is altered by the presence of blood, and albumen appears in proportion to its quantity. Later the urine often becomes alkaline and fetid, contains large deposits of pus and triple phosphates, and finally may take on the characters of a fibrinuria, as described by Ultzmann.

The presence in the urine of large numbers of cells of varied shapes and having large nuclei has been noted by many observers in connection with new growths in the bladder. There is a general agreement that their existence has nothing necessarily characteristic in it, as the cells represent only such forms as are found in the mucous membrane of the bladder normally, and may be cast off and appear in the urine in conditions which favor maceration of its epithelial layers. Nevertheless, when present in the urine and coincident with hæmaturia, vesical pain, or difficulty of micturition, or when present without their appearance being explained by the existence of such a condition as just mentioned, they may be taken as strongly indicative of the existence of a new growth. On the other hand, their absence does not preclude the possibility of a bladder tumor.

The surest evidence which the urine can afford is the presence in it of bits of the growth. These vary from the smallest shreds of necrotic tissue to fleshy masses of considerable size and characteristic appearance. The smaller bits are difficult to detect in a urine which contains much blood, but the search is rendered easy by diluting the sediment largely with water, and pouring it out into several flat dishes.

Occasionally a bit of the surface of a papillomatous growth will be passed in the urine which is sufficiently characteristic in its tufted form to be recognized by the naked eye. More frequently, however, the detached portions come away in a necrotic condition so altered that they are difficult to recognize even under the microscope, but very small bits may show the elements of papillomatous growth. One should bear in mind, however, that the surface of the growths may be papillomatous while the base is cancerous, and that therefore microscopic examination alone is not conclusive evidence as to the nature of the tumor.

Leaving the urine and subjective symptoms of the patient, there are several aids which may be used to a furtherance of the diagnosis. These are capable of furnishing the most information if the patient be etherized.

Examination by rectum, with one or more fingers, will reveal the presence of a tumor which has to any great degree involved the bladder walls posteriorly, or has its seat in the prostate, by imparting to the finger a sense of increased resistance, weight, thickness, or induration, uniformly or unevenly distributed through the bladder wall. This search may be aided by bimanual palpation, the other hand exerting pressure above the pubes in a relaxed condition of the abdominal walls. A small, benign tumor, not involving the vesical walls, or a tumor situated on the anterior wall or fundus, even if of large size, in a fat patient, may quite escape detection by this means.

No better testimony could be brought forward to show that a tumor of the bladder may very readily fail to be noticed by an *exploration of the sound* or searcher than Sir Henry Thompson's assertion that such is frequently the case. In some instances, however, the diagnosis has been made by this means, and in the case of a hard, firm, circumscribed tumor it is quite conceivable that such should occur, but in most

cases the use of the searcher is chiefly valuable as a means of eliminating stone. It should be mentioned in this connection that a tumor of the bladder whose surface had become coated with urinary salts has been mistaken for stone, and it is quite possible to regard, on the other hand, an encysted stone as a tumor of the bladder, as in Dr. Otis's case. Before removing the sound it is well to replace the finger in the rectum, and examine as much of the bladder wall between it and the sound as can be reached.

If a catheter or searcher be introduced their eyes and contents should be carefully examined on withdrawal to see if a bit of the growth has not been caught and detached in the movements of the instrument.

All instrumental manipulations should be undertaken with great gentleness, as several instances of serious and one or two of fatal hæmorrhage have arisen from a lack of caution in this respect.

Irrigation of the bladder, especially immediately after the use of instruments, may furnish valuable information by washing out any detached fragments of growth. Such irrigations, if made with hot water, 125° F., will also be of service in stopping any hæmorrhage which may have originated during an examination.

With the steps just recounted all the ordinary means of diagnosis have been put in requisition, and there remains only one other method to be employed, namely, the *digital exploration of the bladder* as advocated by Sir Henry Thompson, which is justified when such symptoms as have been described render the probability of the presence of a new growth a strong one, or when, even in their absence, vesical disease is suspected, in which the obscurity of the symptoms is such that they cannot be explained by the supposition of the presence of the more ordinary pathological conditions of the bladder. For example, if a patient presents himself suffering from painful or frequent micturition, hæmaturia, and we can eliminate the presence of stone, of hypertrophied prostate, of ordinary cystitis as a reasonable source of the trouble, and are decided that the hæmorrhage is vesical, there is no doubt that digital exploration of the bladder should be undertaken after a reasonable time has elapsed without the disappearance or amelioration of the symptoms under treatment. And bearing in mind the exceptional cases in which neither blood nor pain are present, and where obscure vesical symptoms persist, digital exploration may become justifiable in the absence of further positive evidence of the presence of a new growth. The operation is not in such cases in itself dangerous, and one will not have the unpleasant surprise, in case of the patient's death, of finding at the autopsy a tumor in the bladder, perhaps of such a nature that it could have been easily and safely removed. Moreover, in a number of cases in which the operation has been undertaken under the suspicion that a new growth existed, and no growth was found, the patient has been greatly benefited and sometimes cured of his trouble, although the surgeon has been left in the dark as to the condition which he has relieved. Bearing this fact in mind, and linking it with the two others, namely, the slight risk attaching to the operation, and in default of it the possibility of the patient's dying unnecessarily of a disease which might have been cured or ameliorated, one may prophesy that digital exploration will be undertaken more frequently than hitherto.

The method has already been described in the report of the case. It is undertaken as a means for diagnosis, and as the first step in the operation for the removal of the growth if it exists, to the consideration of which we now come.

There are a certain number of growths which, from their nature, it is impossible to remove, either because of their size or of the great extent to which they involve the bladder walls or neighboring organs. But even in these the operation for digital exploration will at any rate often afford relief by securing drainage for the bladder, or, perhaps, enabling the operator to put a stop to hæmorrhage, by removing the surface of the growth, and often to allay the pain. Such relief to pain and hæmorrhage will not, it is true, follow the operation in all cases, but surely it is better to undertake it even if it is afforded in only a few than to allow the patient to go on through the inevitable series of painful events which must follow if he be let alone.

There are three conditions mentioned by Messrs. Whitehead and Pollard, and experienced by other surgeons as well, which may render digital exploration of the bladder from the perinæum and operation for the removal of the growth impossible. These are (1) "stoutness of the patient; (2) enlargement of the prostate and consequent elongation of the prostatic urethra; (3) an unusually narrow pelvic outlet."

Three methods of operation for removal of new growths from the male bladder have been practiced: —

(1.) Lateral cystotomy, as in the cases of G. M. Humphrey and Berkeley Hill.

(2.) Epicystotomy, as in those of Billroth and Volkman.

(3.) Median perineal cystotomy or urethrotomy, as advocated by Sir Henry Thompson.

A few growths have been removed by the lithotrite, but are only interesting as surgical events.

The lateral operation has the advantages that it gives more room to work in, and that it secures better drainage from the bladder afterwards. On the other hand there can be urged against it the facts that in its performance the base of the growth may be divided, giving rise to hæmorrhage difficult to control; that it is not so short a road to the bladder; that it is in itself a more serious undertaking. It must also be shown by its advocates that growths can be removed by this means which could not have been done by the median operation. In those patients who have hypertrophied prostates it might become more desirable.

Combined epicystotomy and median perineal urethrotomy was performed successfully by Billroth in his celebrated case. Volkman afterward failed to save his patient's life by a similar proceeding in a similar condition. Marcacci's case of epicystotomy died from the effects of the operation.

It has been urged by several surgeons on the ground of the greater ease and accuracy which it offers to them for the removal of the growth after the bladder has been opened. This is of course true, but does not thus far offset the disadvantages of the operation.

That the bladder has been freely incised without harm in ovariotomy does not furnish an argument in favor of epicystotomy, for the bladders which have been so injured have usually been healthy ones.

The high operation for stone, even with the improved methods and greater relative success which it has attained of late years, is still so open to the dan-

gers of urinary infiltration about the wound, peritonitis, and suprapubic urinary fistula, that it must be regarded as a much more serious undertaking than the urethral one, and the same holds true for new growths in the bladder.

There are, however, some growths which from their extent and size might be removable only from above the pubes, and in such cases if any operation is to be undertaken it should be epicystotomy. The additional step of combining an external urethrotomy with this operation to secure drainage and avert the danger of urinary infiltration is desirable.

Professor Guyon and his school have lately attacked Sir Henry Thompson's operation with the statement that "the suprapubic operation should invariably be employed in these cases, and the perineal operation never." Sir Henry's answer, I think, fully meets this, and sets the relative advantages and disadvantages of the two operations in a perfectly clear light; it is as follows: —

"There can, I suppose, be no hesitation in any one's mind that the high operation is a much more formidable and hazardous proceeding than the boutonnière. Why, then, should the former be practiced in any case until absolute certainty is attained not only that the tumor is present, but also that it is removable by operation? Now, it is only in a moderate proportion of suspected cases, say, perhaps, in two thirds of them, that the presence of the tumor can be regarded as strongly probable. In very few indeed can it be stated with certainty until the finger has entered the bladder. In no single case can the surgeon ascertain whether or no the tumor is separable from the bladder until the cavity has been opened and the interior examined. . . . All the data necessary for determining the question of operation can be attained by a slight urethral incision which involves no risk. What imprudence, then, can be greater than that of performing the high operation with all its admitted risks, while the operator does not know for certain that a tumor is present, and while he knows that if he does find one, the numerical chances are that the tumor, although thus completely approached and laid bare, cannot be entirely removed without inflicting fatal injury to the patient, since one half the cases are not completely removable.

"Further I declare, that while the boutonnière enables the surgeon to ascertain all the facts which it is necessary to obtain before operating, it also enables him to remove the tumor when it is polypoid in form, and therefore capable of being removed with a fair amount of ease and safety. If, however, he believes, and he is then in a position to determine the question, that he can attain a better result in any particular case by the high operation, there is nothing whatever to prevent his performing it."

For the reasons stated, therefore, the median perineal operation, having digital exploration for its first step, is of all procedures thus far proposed to be preferred. The method of its performance has already been detailed in the report of the case, and it only remains to say a word as to the instruments to be employed, and their manipulation, the cautions to be observed in operating, and the subsequent treatment. The instruments best suited to the performance of the operation for the removal of the growths are curettes, écraseurs, or snares, forceps, and the finger nail, or something which will serve its purpose better.

A broad based sessile papilloma or growth with a soft papillomatous surface, can often be broken down and scraped away by the finger nail. Wishing to have something rather more efficient, however, for this purpose, I had the following instrument made, which



answered very well. It is a skeleton finger cap, terminating in a moderately sharp-curved curette edge, which points downward. It is slipped over the index finger as far as the second joint, and held there by the spring action of its side arms, which embrace the finger in such a way as to allow, however, free movements to both the joints and consequently to the pulp of the finger, which can feel the surface of the bladder, localize the growth, recognize its extent, and as the operation proceeds how much has been taken away, and then employ the sharp edge of the instrument, so guided by the touch, for the removal of the growth. It has the advantage that the finger does not need to be withdrawn and reinserted in alternation with an instrument; the finger and instrument work as one in the bladder. A uterine curette working beside the index finger of the other hand is also a serviceable instrument.

Pedunculated growths may be snared, cut through with an écraseur, or they may be seized and bitten off with forceps, the best form of which has been devised by Sir Henry Thompson.

The following precautions should be observed in operating: —

The suprapubic pressure which is necessary to bring the interior of the bladder and the growth within reach of the finger should not be continued during the actual employment of the instruments, else it may easily happen that the bladder wall, being inverted by the pressure, may be caught between the blades of the forceps and nipped off, or perforation may be readily caused if a curette is being used. Again, one should be careful to avoid any attempt to bite, twist, or curette away the growth to the extent of making a flush and smooth surface. This is not necessary for the success of the operation, as the wound in cicatrizing will accomplish this for itself, and one incurs the danger of perforating the bladder.

If forceps be used, their movements should be twisting, chewing, crushing, and traction should be avoided.

Frequent digital examinations should be made to determine the progress of the work and recall the exact locality of the growth.

Decided assistance may be gained by washing out the bladder with hot water from time to time. Clots and fragments which obscure the work may thus be removed, and hæmorrhage decidedly checked.

Messrs. Whitehead and Pollard recommend the injection into the bladder of undiluted liquor ferri perchlor. to check hæmorrhage, if it is required in the course of the operation, and state that its use for this purpose is followed by no untoward result.

The treatment subsequent to the operation will of course vary with the circumstances of each case. A short, soft rubber drainage tube may be inserted into the bladder for from one to four days, taking care to change it each day to avoid clogging and uncleanliness. Through this the bladder may be washed out with any one of a number of antiseptic solutions, such as corrosive sublimate in the strength of one to 10,000 to one to 15,000, or stronger if the bladder will tolerate its presence, or permanganate of potash (potas. perm. .04 gramme, aquæ 200 grammes), saturated solution of boracic acid,

or simply hot water at a temperature of 110° F. to 125° F. The washings should be repeated daily, and generally will be found to afford relief to the patient.

The drainage tube will not be well borne by some patients, and when this is shown it should be removed at once. The fossil meal or peat bags will be found to make a serviceable dressing for the outer wound.

The autopsy in the present case showed the presence in the bladder of a primary villous cancer occupying about two thirds of the inner surface of the organ, and extending deeply into the muscular coat. On the right side the growth had extended laterally, involving the bones of the right os innominatum, causing absorption and disappearance of the body and ramus of the pubes, ramus of the ischium, the whole of the acetabulum, with that portion of ilium forming and adjacent to the acetabulum, thus making an opening in the pelvis rather larger than the palm of the hand. Through this opening projected the femur, the head and most of the neck lying in the cavity of the pelvis. The bones forming the edges of the opening described were found, microscopically, to be the seat of a cancerous growth. The head of the femur at the point of attachment of the ligamentum teres was eroded, forming a cavity large enough to admit the tip of the little finger. On section of the bone and microscopic examination it was found that the head and neck were infiltrated with a cancerous growth like that already mentioned.

In addition to the direct extension of the new growth from the bladder to the bones of the pelvis and the femur there were also found cancerous nodules in the lungs, the size of walnuts, evidently resulting from embolism.

The tumor, from its seat in the bladder, had compressed somewhat the opening of the right ureter, leading to a moderate degree of dilatation of the right ureter and to a partial hydronephrosis.

SUBCUTANEOUS INJECTIONS IN INTESTINAL PAIN; THEIR SAFETY AS COMPARED WITH OPIATES BY THE MOUTH.

BY E. M. BUCKINGHAM, M. D.

WHEN called to a patient suffering pain, one of the obvious ways of giving relief is by the use of opium in one of its forms. If the pain has its seat in the intestines, other methods of treatment may be considered, as either an emetic or a cathartic to remove irritating ingesta, but there are cases even when irritating ingesta are known to be present in which a cathartic seems to act more surely and more pleasantly after the removal of spasmodic contractions accompanied by pain, and there are also cases in which humanity demands the relief of pain without waiting for the slow action of cathartics, and others again in which the diagnosis being a matter of doubt a cathartic may be dangerous, while the irritating ingesta, if present, have apparently passed the point when they can be reached by emetics. In such cases the use of opium is undoubtedly the practice of the profession. It may be given by the mouth or the anus, or by subcutaneous injections. It is well recognized that the subcutaneous injection is rapid in its effect, and this, of course, is an argument for its use, but it has occurred to me that there is another advantage as well, that of safety; and that this is the more worth dwelling on that there are practitioners who dread the subcutaneous syringe on the ground of danger. That it has its dangers is a well-recognized fact; that they may be avoided by care is commonly agreed upon; that there is ever any danger in giving opiates by the mouth that does not belong to the hypodermic injection, and that such cases may in a measure be recognized, is something that has not been dwelt upon, so far as I am aware.

It is, however, well established that in certain conditions the intestinal canal does not digest and absorb food, sometimes does not absorb because it does not digest, and it is equally well known that fatigue or mental excitement may be the cause of this non-absorption; that is, a cause which acts through the nervous system independently of the particular contents of the intestine. It seems, too, that this nervous cause does not always act merely by stopping digestion, but that it also prevents the absorption of materials that are in themselves ready to be absorbed. At least I can explain in no other way the cases occasionally reported on good authority in which enormous doses of laudanum have been taken either for suicide or by accident, and which have been retained long enough to be fatal, but have produced in some cases no symptoms, in others none of any severity. Such cases are to be found scattered through medical literature, and need not be repeated here.

If it be granted, as it must be, that fatigue, cold, or mental excitement are at times causes acting through the nerves and preventing absorption, or at least preventing digestion, it may be more readily accepted that pain may have a similar effect. Whether it actually does so or not is a matter to be decided by clinical experience, and probably in no other way. I think that I have seen some evidence that it does, but not enough to make the matter certain; and it is in hopes of comparing notes with others, or at least of drawing attention to the subject, that this paper is presented.

CASE I. A gentleman has had several attacks of pain, which, as will be seen later, it is necessary for my purpose should be shown not to be due to calculi. This gentleman, who is of middle age, has for years managed a large business alone, getting little exercise, and keeping a luxurious table. He has a habitually coated tongue. There have been extra fatigue and anxiety, with lunch omitted and dinner postponed; or some recently eaten article of food has been tasted for hours before the onset of pain; or on one occasion the exciting cause seemed to be an indiscretion in diet while in bed with a carbuncle, followed by sleeping exposed to a strong current of air, by which his wife also took cold. One or the other of these supposed causes has preceded each attack. Furthermore there has never been pain referred to the penis, the thigh, or the testicle, which last has not been retracted. The liver has never been large nor tender, and with one slight exception there has been no jaundice. The pain has been general over the abdomen rather than local, and when once controlled by opium, at whatever stage of the attack, has not returned except once, when it ended with a diarrhœa.

This is not the history of calculus, and the sudden cessation of pain to be reported has evidently a different explanation.

The history of the particular attack to which I refer is as follows: He had headache for a few days, was very and anxiously busy, and was all day out of town in the cold, and with nothing to eat after breakfast

until night. Pain began in the following afternoon, somewhat suddenly, and he was given a subcutaneous injection by a physician down town, the amount unknown. When I saw him at his house the abdomen was tympanitic, and he was regurgitating gas. Was still in great pain, though a little easier from the injection. Because of the partial relief, together with the unknown quantity of opium taken, he was given small, frequently repeated doses of morphia by the mouth. When I next saw him, four hours later, he had taken by the mouth five sixths of a grain, the pain was at least no easier, and the pupils were not contracted. Soon after I entered the room he vomited for the first time, bringing up green liquid very freely, but nothing else. After waiting a short time to see if vomiting would give relief, I did what I should have hardly dared had he not vomited, gave a sixth of a grain subcutaneously, and with the effect of giving complete ease, relief beginning in something less than a half hour. He then dozed off and on for three hours, and then slept for three, but there was no return of pain, and in the morning, some twelve hours after this last injection, neither the pupils nor the skin showed the effects of opium.

Now if it be assumed that his stomach was in ordinary working order it follows that of the five sixths of a grain given by the mouth the most must have been absorbed. In addition to this a sixth of a grain was given by me and something given down town. It will be safe to say that the man took over a grain of morphia during a few hours, and it must be assumed either that he deceived me by complaining after the pain was partly relieved by the absorption of this large dose, which supposition is contradicted both by the character of the man and the absence of any effect on the pupils, or that no effect was had from five sixths of a grain, while the addition of a single sixth gave complete relief, a result not in accordance with common experience, and in either case we are left to account for a grain of morphia being taken in a short time of the late afternoon and evening, and leaving no effects perceptible early on the following morning.

On the other hand, if the stomach was not absorbing a dangerously large dose was collected there, and remained inert until it was, fortunately, vomited, after which the pain was relieved by a comparatively small dose placed where it could be of service, and there were no manifestations of a large dose, because that had been rejected after lying useless for some time.

To assume certainly that the non-absorption was due to pain would be going too far, but it was not due to the presence of any large amount of mucus, so far as one can judge by the vomitus, while the next dejections contained nothing but some old fæces. That there was a connection between this non-absorption and the presence of intestinal pain seems probable, partly in the absence of any other explanation, partly in view of the fact that abdominal pain sometimes causes vomiting, as witness the vomiting that accompanies tenesmus in dysentery, even in cases where the stomach contains no food, and there is no vomiting, except at the times of dejections, and partly in view of the next case to be reported.

CASE II. A lady, ill with dysentery, was given morphia many times both by mouth, by rectum, and by the skin without showing any idiosyncrasy with regard to its use. For several days during a part of the illness nearly every dejection was accompanied by vomiting. On one day she was given a sixth of a grain of morphia for the relief of distressing and persistent tenesmus, and this was repeated twice in eighth grain doses, making nearly a half grain in all, but with no apparent effect. I saw her an hour and a half after the last dose, and, remembering the previous case, injected a twelfth grain subcutaneously. Very shortly the pain became easy, the pupils were much contracted, and she sunk into an unusually sound and prolonged sleep. The long and sound sleep might be accounted for by the relief of pain in a worn-out woman, but not the contracted pupil. She was certainly affected powerfully by the opiate, of which by far the greater part had been taken from an hour and a half to several hours before showing its effects. Furthermore, nearly a half grain had been taken without effect; a twelfth grain injected was followed at least by relief, and this relief was not merely caused by the repeated addition of dose after dose, as is seen from the long interval between the two last doses, and the overpowering effect when the drug did act. I can find no explanation of this case unless the large dose, made up of small ones, lay inert together until the pain became lessened, and then the whole morphia, that given by the skin and that by the mouth, entered the circulation together with effects to be expected from that dose.

That the partial relief to pain given by the small injection was the cause of the stomach beginning again to absorb is not certain, but the coincidence is at least suggestive.

Unquestionably the stomach will almost always absorb an opiate. It is probable there are times when it will not, and one indication of this condition may be intestinal pain. If, as these two cases suggest, though they do not prove, the presence of intestinal pain has sometimes an effect in preventing absorption, it follows that in such cases opium by the mouth is uncertain, and if pushed may become dangerous; if given at all may make the after use of the syringe dangerous.

My own practice has been for some time to inject morphia in these cases, and to stay with the patient until he becomes easier. Only when relief has begun, to leave an opiate to be used provisionally.

If discussion shall remove my fears in this matter, and lead me to a less cumbersome practice, the trouble of writing will be amply repaid.

A CASE OF CALCULUS IN THE FEMALE BLADDER. REMOVAL BY BIGELOW'S OPERATION.

BY J. G. PINKHAM, M. D.

THE patient was a small, feeble-looking woman, about thirty years of age. In February, 1881, six months after the birth of her first and only child, she began to experience a smarting sensation during and after micturition. Previous to this there had been no vesical disorder, and there was no history of renal colic. Not long after the smarting began she noticed a gritty substance in the urine. A good deal of this in the form of fine sand, with some larger pieces, escaped in the course of a few months, the symptoms meantime increasing in severity, and the urine becoming offensive, thick, and bloody. After a time, the exact length of which could not be stated, the gravel

ceased to be passed. When the case came into my hands many of the symptoms of vesical calculus, such as frequent and painful micturition, sudden stoppage of the stream of water, a sense of weight in the bladder, pain from sudden motions of the body, etc., were present, and the patient's general health was much impaired. On passing a steel sound into the bladder the stone was at once discovered, and shown to be of considerable size.

The operation for its removal was performed at the patient's home on the 19th of December, 1883, Drs. Lovejoy, Colman, and Sheldon assisting. The instruments employed were a series of elastic bougies, a pair of long, slender forceps, a Thompson's lithotrite, a Davidson's syringe, and a piece of rubber tubing about two feet long, and one half inch in diameter.

The urethra was first dilated rapidly up to No. 30 of the French scale. It then easily admitted the lithotrite. There was little difficulty in getting hold of the stone, which, as grasped by the lithotrite, measured about four and a half centimetres in diameter. It was soft and readily crushed, but the instrument frequently became clogged, necessitating withdrawal for the purpose of clearing the jaws. Several pieces were removed by the forceps. The remainder was washed out by means of the rubber tubing and Davidson's syringe, the process being to pass in the tube, fill the bladder, and then, depressing the outer end of the tube as far as possible below the level of the table upon which the patient was lying, to allow the water to flow out. In this way it was found quite easy to remove the detritus from the bladder. The patient did not bear the anæsthetic well, and at one time, when we were fairly under way with the operation, she suddenly ceased to breathe, and turned livid. Active efforts were required for some minutes (as it seemed) to induce respiration, and when this did begin again it was attended with an abundant discharge of white froth from the mouth and nostrils. Again after this, an attempt being made to push the anæsthetic to the extent of relaxing the lower limbs, alarming symptoms, similar to those descrioed, though less in degree, supervened. Hence it was found necessary to endure a certain amount of moving about on the part of the patient, and to work more slowly than we might have done had we been able safely to induce complete anæsthesia.

The time occupied in the operation was about two hours. Very little blood was lost, and little injury done to either bladder or urethra.

One hour and forty-five minutes after the operation the patient had a temperature of 99° F., and a pulse of 124 per minute. Her mind was clear, and she complained of pain in the bladder and head. She was given a rectal suppository containing one third grain each of morph. sulph. and ext. bell. Four hours later her temperature was 100.8° F., and pulse 124. She had passed water twice with some gravel. Was bright and cheerful, and had no pain.

December 20th, morning. Passed a comfortable night. Temperature 98.4° F. Pulse 108. Has had but little discomfort when passing water, and no incontinence. From this time on the patient's recovery was uninterrupted. In a week she was about the house. Six weeks later she was found to be free from vesical trouble, and to have gained much in flesh and strength.

The portion saved of the calculus weighed a little more than half an ounce. Its principal constituents were uric acid and the urates of the fixed alkalies.

The operation of litholapaxy, or lithotrity at one sitting, introduced by Dr. Bigelow, seems to be especially appropriate for the removal of calculi from the female bladder, inasmuch as the urethra is short and easily dilated, and no complicated and expensive evacuating apparatus is required, as shown in this case. Professor Heath used a vulcanite-urethral speculum and a Higginson's syringe to wash out the detritus.[1] He, however, had dilated the urethra to the extent of producing rupture, and had introduced his forefinger. With the method adopted in my case there is no need for any except a very moderate dilatation. Heath claims that no harm resulted from extreme dilatation in his cases. I have myself dilated the urethra so as to introduce the finger for the purpose of removing small calculi and calculous encrustations of the vesical mucosa. In these cases there was a moderate amount of rupture of the meatus superiorly, but the patients recovered promptly. Yet instances are not unknown in which this procedure has been followed by prolonged incontinence. Sometimes, indeed, the vesical sphincter never regains its control over the contents of the bladder. Such a result would be an evil second only to the retention of the calculus. Hence the inquiry is pertinent why the patient should ever be subjected to such a risk. The caustic application recommended by Mr. Heath can be applied through the urethral speculum without extreme dilatation.

Vaginal cystotomy will probably always have to be resorted to in certain cases, such as those of foreign bodies which cannot be removed *per urethram*, encysted calculi, etc., but for all ordinary cases of stone in the female bladder it is safe to say that litholapaxy will be the operation of the future.

Hospital Practice and Clinical Memoranda.

PREGNANCY AND OVARIAN CYST. OVARIAN TUMOR IN A WOMAN OF NINETY YEARS.

BY W. P. GIDDINGS, GARDINER, ME.

THE following cases I thought might be of sufficient interest to the readers of your valuable journal to warrant their being reported: —

I. Mrs. S., aged twenty-four, American, first noticed an enlargement of the abdomen in 1879. She consulted Dr. S. Whitmore, now deceased, who diagnosticated pregnancy complicated with an ovarian growth. A consultation was held with our veteran surgeon, Dr. H. H. Hill, of Augusta, who advised tapping of the cyst for temporary relief. At full term she was delivered of a strong, healthy boy, now living, three years of age. The mother made a good recovery from confinement, and the tumor refilled in some four months. Tapping was repeated at various intervals five times, the last two being done by the writer, removing respectively thirty-five and thirty-three pounds. On the 26th of June, 1882, I operated upon her, removing a multilocular ovarian tumor, weighing with its contents fifty pounds. Recovery perfect and uninterrupted, save a little cystitis lasting a few days. On June 16th of the present year I attended her at full term with a fine healthy

[1] See London Lancet of December 23, 1882.

boy weighing ten pounds; labor normal and easy. In quite an experience with ovarian disease this is the second I have seen in which pregnancy supervened. The first, in Boston, passed from under my observation, and its subsequent history I do not know.

II. Mrs. W., aged ninety years eight months, had been noticing an abdominal enlargement for nearly a year, which, increasing to an uncomfortable degree, she sought counsel of a physician, who diagnosticated ascites. I was called April 4th in consultation to tap if it was thought advisable.

The most distressing feature of the case was a profuse and constant salivation, precluding nourishment and sleep. A careful examination revealed an ovarian tumor, and tapping was advised, which I did on April 10th. The old lady, unusually bright and intelligent, related during the operation many interesting medical experiences in her life, and remarked upon the advancement in medical and surgical science since her early life. The fluid removed weighed sixteen pounds. On August 9th I tapped her the second time, removing fifteen pounds; and the day following, being her ninety-first anniversary, she received and entertained several callers. At this writing she is in excellent health, reads with as much interest the daily paper as any person in our city, and discusses the prospects of our presidential election with the interest of a politician.

This is the rarest case of an ovarian growth that has ever come to my knowledge, though I assisted my friend Dr. Crooke, of Augusta, Me., in removing one from a lady seventy-three years of age, which weighed fifty-five pounds, and her recovery was as rapid and uninterrupted as any I have ever seen.

Reports of Societies.

MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION, ST. LOUIS, OCTOBER 14, 15, 16, 17.

THE American Public Health Association opened its twelfth annual meeting in St. Louis on Tuesday morning October 14th, and after the usual preliminary work proceeded to the discussion of the various topics which had been previously arranged.

A large number of papers were read, embracing the following subjects: The Hygiene of Occupations; The Hygiene of Habitations; The Hygiene of Schools and School-buildings; Heating and Ventilation; Food and its Adulterations; The Disposal of the Dead; Cattle Transportation and Diseases; Water Pollution, and Analysis; Sewerage and the Disposal of Sewage; The Germ Theory of Infectious Diseases; The Health of St. Louis.

In addition to these special meetings were held of the Conference of State Boards of Health, at which the subject of Cholera and the work of State Boards were the chief topics of discussion.

Of the sixty or more papers presented at the meetings of the Association, either in full or by title, a few only need to be mentioned as presenting points of marked professional interest.

On Thursday evening DR. GEORGE M. STERNBERG, U. S. A., delivered a popular lecture on

DISEASE GERMS,

illustrated by photo-micrographic views by means of a stereopticon. Dr. Sternberg presented the historical view of the subject, embracing the researches of Koch and other observers, and also detailed his own experience with reference to the search for yellow-fever germs at Havana. He had thus far been unsuccessful in finding anything characteristic, and also expressed his disbelief in the assertions of others who claimed to have found such germs, mentioning especially the bacillus of Dr. Domenigos Freire.

Views of the bacilli of tuberculosis, splenic fever, and other diseases were shown upon the screen.

His paper was followed by another by DR. L. BREMER, of St. Louis, on the Bearing of the Discovery of the Bacillus Tuberculosis on Public Health, in which the author expressed very decidedly his belief in the infectious nature of the disease.

The paper by SURGEON CHARLES SMART, U. S. A., on the

PRESENT AND FUTURE OF WATER ANALYSIS,

was one of the best of the session. He expressed very decidedly the impossibility of chemical analysis of itself alone, and without the knowledge of other associated facts or factors, to determine the question of purity or impurity of any given water with reference to its power of communicating infectious disease. Pollution and danger may be affirmed, but purity and freedom from danger cannot be affirmed. His statements were in harmony with the results of experiments recently made by Dr. R. Cory, for the Local Government Board of England, and confirmed by analysis made for him by Dr. Duprè.

Two papers on

THE HYGIENE OF OCCUPATIONS

deserve special notice. One by PROF. GEO. H. ROHÉ, of Baltimore, on the general subject, in which the Reports of the Massachusetts Bureau of Labor were largely employed for the purpose of illustration.

Another paper, presented by DR. WALTER WYMAN, United States Marine Hospital Service, detailed with much minuteness the Hardships of the Chesapeake Oystermen. He showed that this class of men were subject to great suffering and danger in consequence of brutal treatment, exposure to the inclemency of the oystering season, and serious injuries received by the cranks of dredging-machines.

ADULTERATION OF FOOD AND DRUGS.

Several papers were presented on food adulteration, both general and special. One paper in particular showed a lamentable want of knowledge of actual facts as to existing conditions, and repeated some of the older traditions and long-exploded statements of earlier writers as though they were verities of the present day.

DR. B. F. DAVENPORT detailed his experience as Analyist of the Massachusetts Board in the examination of drugs, and also as Inspector of Milk for the City of Boston; and explained the operation of the laws of Massachusetts with reference to the subject of food and drug adulteration. He also advocated the organization of a society of public analysts on a plan similar to that adopted in England.

DR. J. C. MORRIS, of Philadelphia, presented a paper on the Milk Supply of Large Cities, wherein he showed the immense importance of this article of food, and

proposed its delivery to customers in glass jars as a practical solution of the adulteration question.

SCHOOL HYGIENE.

Of the papers on School Hygiene the following were notable for their able presentation of the subject: —

DR. FELIX FORMENTO, of New Orleans, on the general subject.

DR. E. S. ELDER, of Indianapolis, on the Sanitary Survey of the School-houses of Indiana.

DR. S. O. RICHEY, of Washington, D. C., on the Hygiene of the Eyesight of School Children.

PROF. E. M. HARTWELL, of Johns Hopkins University, on Physical Training in American Colleges and Schools.

CREMATION

received its share of attention both as a mode of disposal of the dead, and for all refuse material, garbage, and solid material of sewage. Two papers were presented by ardent advocates of "Sanitation by Fire."

WATER POLLUTION.

In the matter of water pollution DR. H. B. BAKER the veteran secretary of the State Board of Michigan, presented the subject of the relation of the depth of water in wells to the prevalence of typhoid fever, illustrating his subject by diagrams showing the depth of water for several years, and the prevalence of typhoid fever during those years.

LOMB PRIZES FOR ESSAYS.

On the second day of the meeting it was announced that Mr. Lomb, of Rochester, N. Y., had offered to the Association the sum of $2000 to be distributed in the form of prizes for essays on the following subjects: Healthy Homes and Foods for the Working Classes; Sanitary Conditions and Necessities of School-houses and School Life; Disinfectants and Individual Prophylaxis against Infectious Diseases; Appliances and Means for Saving Life, and for Protection against Injurious Influences of Occupations on Health.

It is understood that these papers are to be submitted, before April 1, 1885, to a committee appointed for the purpose.

THE SANITARY CONDITION OF ST. LOUIS.

Several papers had been announced on topics relating to the sanitary condition of St. Louis, but, having been reserved for the last day's session, at which time the attendance was considerably diminished, a portion were omitted.

It is sufficient to say that the sanitary condition of the city has been decidedly improved since the great cholera epidemic of 1866, in which year there were 3527 deaths from cholera out of a population of 204,000. The death-rate for 1883 was 21.35 per 1000. Population 383,006.

Carefully prepared maps showing these facts, together with the portions of the city furnished with water-supply and sewerage, were distributed to the members of the Association.

INCIDENTAL MATTERS.

A prominent and new feature coincident with the meetings of the Association was the Conference of State Boards of Health, of which several sessions were held during the week, an organization having been effected for the purpose. The principal subject of discussion was the cholera, and the question of the efficiency of quarantine was the mooted point.

In comparing the meeting of the Association with those of previous years it may be said that the undue length of some of the papers presented upon general subjects prevented the discussion of papers of greater and special value.

The prevalence of unexceptionable weather through the entire session enabled the members of the Association to accept the cordial invitations of various organizations to visit the public institutions, parks, clubs, libraries, and other places of interest.

Public addresses of welcome were given by the Governor of Missouri, Mayor of St. Louis, President of the State Board of Health, and a brilliant illumination of all the public streets and buildings took place upon Wednesday evening.

ELECTION OF OFFICERS.

The officers chosen for the following year were as follows: —

President, Dr. James E. Reeves, of West Virginia.

First Vice-President, Hon. Erastus Brooks, of New York.

Second Vice-President, Dr. Henry B. Baker, of Michigan.

Treasurer, Dr. J. B. Lindsley, of Tennessee.

Secretary, Dr. Irving A. Watson, of New Hampshire.

Executive Committee, Dr. H. P. Walcott, of Massachusetts; Dr. Charles Smart, United States Army; Dr. George B. Thornton, of Tennessee; Dr. J. W. Hand, of Minnesota; Dr. Gustavus Devron, of Louisiana; Dr. H. B. Horlbeck, of South Carolina.

Among the names of new members elected were those of Dr. Charles Harrington, of Boston, and Mr. John Wells, of Winthrop, Mass.

It was decided to hold the next meeting at Washington, D. C., in December, 1885.

SUFFOLK DISTRICT MEDICAL SOCIETY.

SURGICAL SECTION.

S. J. MIXTER, M. D., SECRETARY.

OCTOBER 6, 1884. DR. F. S. WATSON read a paper on

TUMORS OF THE BLADDER IN THE MALE, ILLUSTRATED BY A CASE.[1]

DR. GANNETT, before giving the results of the autopsy, made some remarks in regard to tumors of the bladder, saying that they developed from the mucous membrane. Over a circumscribed area the mucous membrane might grow upwards, projecting into the cavity of the bladder, or downwards into the muscular coat. In the former case one had to do with a papilloma, in the latter with a cancer. Further, there might be a combination of both.

As regards the papilloma, the arborescent structure is

[1] See page 409 of this number of the JOURNAL.

its distinguishing feature, it presenting a villous appearance. Each villus is made up of a thin-walled, branching capillary, covered by a many-layered, flat epithelium similar to that lining the bladder. So delicate are these that a slight violence is sufficient to lacerate them, and so permit of a hæmorrhage.

These growths may be either sessile or attached by a larger or smaller pedicle, the pedicle often being very small in proportion to the size of the tumor.

Alcoholic preparations illustrating these varieties were shown.

As regards diagnosis of new growths by examination of the urine, this often affords the only means of coming to a positive conclusion in cases where a suspicion of tumor has arisen, either from the existence of intermittent hæmaturia, or vesical tenesmus, or both.

In the urine from such cases are found red blood corpuscles, as a rule in a fresh condition, rarely degenerated; usually polymorphous epithelial cells, sometimes singly, sometimes in clumps. Such cells, when abundant, point very strongly to a new growth, though they are not absolutely conclusive. The diagnosis is rendered certain only by finding portions of the tumor which have become detached and passed with the urine. It is often difficult to find these, owing to the fact that so long as the villi remain undegenerated they are not separated from the wall by the contractions of the bladder; whereas if they become degenerated and cast off they are usually in the form of a granular mass, and nothing characteristic can be made out.

Since, however, the symptoms often lead to a suspicion of stone, sounding is frequently practiced. Bits may, in this way, be torn off and removed in the eye of the cathether. Such bits show a typical structure, and lead one to a positive diagnosis.

Where cystitis is associated with the tumor the villi often become incrusted with crystals of phosphate of lime and triple phosphates. Such masses may be broken off, and cause intense pain in their passage through the urethra with the urine.

It is a noticeable fact in connection with these tumors of the bladder that, whereas in other parts of the body papillomata are benignant and cancers malignant, here it makes, as a rule, very little difference to the individual, *unless he is operated on*, whether the tumor be a papilloma or a cancer, in that hæmorrhage is the important factor in either, and will eventually lead to a fatal termination.

DR. C. B. PORTER reported from memory a case in which he had performed the operation. The patient was a man past middle life. The prominent symptoms were vesical pain, requiring large doses of morphine for its relief, and hæmorrhage. The diagnosis of a papilloma was made chiefly from the microscopic examination of the urine, in which were found bits of necrosed arborescent shaped growth. These pieces were at times of sufficient size to completely block the urethra. This was the first operation of the kind done in this vicinity. It was made in the median line, and it was exceedingly difficult to reach the bladder on account of the great depth of the perinæum. It was considered at that time that the entire growth was not entirely removed. The relief, however, to pain and hæmorrhage was complete until the man left the hospital. The only subsequent history known was the newspaper announcement of his death three or four months afterwards.

He thought that the operation of cystotomy had a large future both for the removal of new growths and for relief in cystitis. Thompson's median operation is the best; that over the pubes should only be used in rare cases, and then always supplemented by opening through the perinæum to insure perfect drainage.

DR. E. S. WOOD said in relation to the microscopic examination that in his experience the finding of well-defined arborescent tufts was rare. The presence of large patches of polymorphous cells should always be looked upon as suspicious; as, although they may theoretically arise from desquamated bladder epithelium, this practically only occurs in urine that has been drawn after death, and which has had time to macerate the mucous membrane.

DR. A. T. CABOT said that towards the end of the patient's life, in the case reported, hæmorrhage returned and was quite constant. As to the different operations, he thought that they must be still considered as *sub judice*, and that greater experience will enable more precise rules to be formulated. Guyon and his followers believe in the suprapubic operation, which is facilitated by the introduction of a rubber bag into the rectum, by filling which with water the bladder is forced up, and thus additional space is gained over the symphysis. Where the operation is for relief only he considers the perineal one preferable.

He recalled the case of a man sixty years old who had had symptoms of intermittent hæmaturia for a year and a half. No great pain, but great cacchexia. He was sounded to eliminate stone, and two fleshy looking masses came away upon washing, which were apparently blood clots coated with small cells. No operation was attempted.

DR. ABNER POST spoke of a case of malignant tumor of the bladder, seen by him during the past summer. He called attention to the value of negative evidence furnished by rectal examination. When the history of a case pointed to the presence of a tumor in the bladder, the absence of any thickening of the walls as felt by the finger in the rectum, would be strong presumptive evidence that the supposed tumor was a benign papilloma, and would aid in the elimination of malignant disease. He also suggested the use of Bigelow's evacuator as a help in diagnosis, as used by Sir Henry Thompson in his last few cases.

DR. WATSON said, in answer to an inquiry, that hot water injections for the relief of vesical tenesmus can be kept up from ten minutes to half an hour, commencing with warm water and gradually increasing the heat. He had employed water as hot as 125° F. with nothing but beneficial effect.

NEW YORK COUNTY MEDICAL ASSOCIATION.

AT a meeting of the Association, held October 20th, DR. AUSTIN FLINT, SR., read a paper on

THE PARASITIC DOCTRINE OF EPIDEMIC CHOLERA,

in which he took much the same favorable view of Koch's observations on cholera that he did of his investigations into the specific origin of tuberculosis in the paper which he read before the Association a few months ago. He said that in order to accept the fact that cholera was a parasitic disease it was not neces-

sary to have personally verified by microscopic studies the existence and agency of its special micro-organism. If the claims of such an organism were substantiated by the confirmatory observations of a sufficient number of competent judges it was all that could be asked. Fortunately, there had been no opportunity for studying the cholera microbe in this country, but when he was in London during the past summer he had had an opportunity of seeing in the biological department of the Health Exhibition a specimen of the so-called comma bacillus which had been prepared by Koch himself.

At the present day it was regarded as logically certain that all of the infectious diseases were due to a distinct and specific causative agent of some kind, and that it was most probable that this causative agent was a living organism. A number of years ago the name of *zymotic* had been given to such diseases by Farr (the word zymosis signifying fermentation), because he believed that they were due to a morbific agent of the nature of a ferment. It had since been shown by Pasteur that this ferment was a micro-organism, and a strong confirmation of what had long been a favorite hypothesis was thus afforded. In this connection Dr. Flint alluded to the remarkable paper of the distinguished American physician, Dr. J. K. Mitchell, on the Cryptogamic Origin of Disease, which had appeared nearly fifty years ago. There was now no room for question that in several infectious diseases the existence of a special micro-organism had been established, and if this fact could be positively demonstrated in a single one of these it seemed fair to reason by analogy that all such diseases were due to similar specific agents.

In regard to epidemic cholera much had been added to our knowledge within the past few months. In 1883 Koch had been sent to Egypt by the German government to make a study of the disease. He had afterwards gone to Calcutta for the same purpose, and subsequently pursued his investigations at Toulon during the recent epidemic at that place. The results of his observations he had embodied in a series of reports to the German government, and at the Cholera Conference held in Berlin on the 26th of July last, at which Virchow presided, he had given a summary of them to the medical profession. Having given a brief account of the comma bacillus and its characteristics, as described by Koch, Dr. Flint went on to say that the latter had not hesitated to express his conviction of the potential agency of the organism in such words as these: "For my own part the matter is proved that the comma bacilli are the cause of cholera." That the comma bacillus was a suitable organism could not be doubted, since it had been successfully cultivated not only by Koch, but by a number of other investigators.

The grounds on which Koch based the hypothesis that this microbe was the causative agent of cholera were: —

First, because it was found to be present in all well-marked cases of the disease, and,

Second, because it was never present in the healthy body, or in cases of any other disease except cholera.

In the hundred cases of cholera in which he had looked for it he had not found it wanting in a single instance. The experience of the French government Commission, with Strauss at its head, which had also been sent out to Egypt in 1883, was somewhat different. In twenty-four cases examined by them the microbe was present in greater or less abundance in all except three. In these three it was present in such very small numbers that the Commission reported that they did not feel authorized in assigning this as the essential cause of cholera. Within a few days Dr. Flint said he had seen in the *Lancet* of September 20th an article by Mr. Timothy Lewis, assistant professor of pathology in the Army Medical School, in which he claimed to have discovered that comma-like bacilli identical in size, form, and in their reaction with aniline dyes, with those found in choleraic dejecta, were ordinarily present in the mouth and fauces of perfectly healthy persons. It did not appear that the culture-test had been applied in the case of those bacilli found in the saliva; and, at all events, the observations of Mr. Lewis would soon be confirmed or refuted by those of other investigators.

Granting, however, that Koch was correct in his two hypotheses, mentioned above, that the comma bacillus was always present in cholera, and that it was never found except in cases of this disease, it would be logically certain that there was an essential pathological connection between the disease and this micro-organism. Still it would not follow that the latter was the causative agent of cholera, since it might be a result, and not the cause, of the disease. The crucial test of its causative agency would be inoculation. If inoculation could be demonstrated the proof would be absolute; but Koch, as well as the members of the French Commission referred to, had failed in their efforts to secure this proof. In the same number of the *Lancet* in which Mr. Lewis's communication had appeared, however, there was published an account of the experiments made by two Swiss physicians, Rietsch and Nicati, in the laboratory of the Pharo Hospital at Marseilles, by instructions from the French government, in which it was stated that they had successfully inoculated a number of guinea-pigs, dogs, and rats with cholera. The guinea-pig was found much more susceptible to the disease than any other animal.

Having discussed still further the probable relations between the comma bacillus and cholera, Dr. Flint remarked that the disease, except in India, was an exotic one, and it was, therefore, much more probable that cholera was caused by the microbe than that the latter was simply a result of the disease. Koch had shown that the comma bacillus was short-lived, and it was well known that cholera was a very short disease. Moreover, the microbes were found most abundantly in the earlier stages of the disease, and rapidly diminished as time elapsed. Could the fact be shown that the comma bacillus gets into the system before the symptoms of cholera are developed the proof of its causative relation to the disease would be as clearly established as if the point of inoculation could be demonstrated, and Koch had found some evidence apparently to this effect when he was in India. During a local epidemic of cholera he found that the water in a tank used by the people for drinking and other purposes contained a large number of comma bacilli, and that the disappearance of these micro-organisms from the water coincided with the subsidence of the epidemic. Moreover, he could detect no comma bacilli in the water-supply of adjacent localities which were free from cholera at the time he visited them. The whole question of the parasitic origin of this disease, however, was still *sub judice*, and a proper sense of conservatism ought to lead us not to accept the investigations and conclusions of Koch until they had been con-

firmed by the researches of a sufficient number of expert observers. Still, in his own mind, Dr. Flint said he had little doubt that the truth of the doctrine would eventually be conclusively demonstrated. If this were the case it would only establish a hypothesis that had been for a considerable time anticipated in the medical world, and in this connection he quoted a passage on the relation of the germ theory to cholera in the fifth edition of his own work on the Practice of Medicine, published in 1880.

It was not to be denied, he continued, that there were considerable difficulties in reconciling Koch's views with certain facts in clinical experience, especially those relating to the diffusion and transmission of the *contagium vivum*. If the causative micro-organism was taken into the system in the ingesta it was difficult to explain the occurrence, almost simultaneously, of cases at a distance from each other, as well as the immunity of a large number of individuals exposed to the danger of infection, and the development of the disease in some whom we would naturally expect to escape. Much the same difficulties were met with in accepting the doctrine that tuberculosis was due to a specific microbe.

But, granting the truth of the parasitic origin of of cholera, what bearing would this have on treatment? This was certainly a question of great practical importance, since we were liable to have an outbreak of the disease in this country at any moment. So far as our present knowledge went there was no agent capable of destroying the parasite in the intestines without being toxical to the patient, though it was quite possible that such an agent might yet be discovered. Clinical experience had shown, however, that there was no disease which could be controlled with greater ease than cholera. The remedies *par excellence* for it were opium and complete rest, and if any case of it were taken in time the further development of the disease could be prevented with almost absolute certainty by these means. Dr. Flint said he could speak from personal knowledge on this point, as he had had a pretty large experience in several epidemics of cholera which had visited this country. Exactly what the modus operandi of the opium was in controlling this disease he was not prepared to state. He could only say that it was one of those instances, not very rare in practical medicine, of an important therapeutical truth which could not be satisfactorily explained in our present state of knowledge.

The next question to be considered was the bearing of this doctrine on the prevention of cholera, a point which was of even greater importance than the treatment. It was probable that the detection of the comma bacillus in the dejecta of patients before cholera had become epidemic would prove of great service in enabling us to check outbreaks of the disease at the very beginning, and would also furnish a means for making a differential diagnosis between cholera and cholerine, which was often a matter of very considerable difficulty. Wherever cholera appeared the complete destruction of the parasite directly it left the body could be secured, and by this means every case of the disease would be rendered sterile. Koch had proved that the cholera microbe was readily killed by drying, while cold somewhat diminished its activity, but did not destroy its vitality. The local conditions under which the parasite would thrive best outside the body were not definitely known, but there could be no doubt whatever that filth was very favorable to its development. Inside the body Koch had shown that the acidity of the gastric fluids was inimical to it. In order that an individual should contract cholera it was probable that there should be a predisposition or susceptibility to it, as was the case in tuberculosis, but, as in regard to that affection, our knowledge concerning the matter was as yet incomplete.

Dr. Flint then spoke of the very successful manner in which the epidemics of cholera in New York in the years 1866 and 1867 were stamped out by the energetic efforts of the Board of Health, and said that the efficiency of the measures adopted seemed to afford a certain amount of confirmation of the truth of the parasitic doctrine. These measures were carried out with admirable thoroughness by the late Dr. E. B. Dalton, a man of great promptness of action and executive ability, and under his direction there were a number of special sanitary inspectors, who visited every case the moment it was reported, and a large disinfecting corps, composed entirely of men who had lately served in the army during the war, who were kept in the state of readiness and discipline that the members of the fire department now are. The consequence was, that while there were 362 cases in the year 1866, in not a single instance did the disease spread proximately beyond the house where it was found. In 1867 there were a much smaller number of cases, and the disease was very readily controlled. Dr. Flint then said that it was his belief that never before or since in any country in the world had measures for the suppression of a dangerous epidemic been so successfully carried out. The history of the outbreak of cholera at that time showed that it was a disease which could certainly be stamped out, and he did not hesitate to say that if the same means had been adopted in the recent epidemics at Toulon, Marseilles, and Naples thousands of lives might have been saved. He also expressed the opinion that if the disease should again make its appearance here, it would rest entirely with the authorities whether it should become epidemic or not.

In conclusion he remarked that this was a most important era in medicine, since he believed that it would be to the present epoch that posterity would look back as the time when those signal discoveries were made which led to the final adoption of the parasitic theory of the origin of all infectious diseases. Was the medical profession in this country to have an active share in this great work of investigation and in these brilliant discoveries, or was it to be content to wait patiently until the announcements of the results of their labors were made by the scientific men of Europe? There was certainly no lack of ability on the part of American medical men, but it seemed to him that there was, at all events, a certain want of self-reliance and energy. At the same time it could not but be granted that there were difficulties met with here which did not exist in Europe, since the government did not afford any facilities or encouragement for investigation, as was the case there. In this country the profession would have to look to private liberality for its encouragement, and in this connection he alluded to the recent gift of $50,000 by Mr. Andrew Carnegie for the pathological laboratory at Bellevue, and of half a million by Mr. William H. Vanderbilt to the College of Physicians and Surgeons. One of the greatest benefits of such donations, he thought, was that it tended to give pri-

vate beneficence a direction toward the advancement of medical knowledge and education.

A few remarks were then made by Drs. E. G. Janeway and C. A. Leale, and also by the President, Dr. William Detmold, who thought that as papers were to be presented on the same subject (by Drs. Janeway and Leale) at the next meeting of the Association, it would, perhaps, be better that further discussion of Dr. Flint's paper should be postponed until that occasion.

PHILADELPHIA CLINICAL SOCIETY.

G. Belton Massey, M. D., Reporting Secretary.

Stated meeting, held September 26, 1884.

Dr. Clara Marshall read a report of two cases of Imperforate Anus, with Recto-Vaginal Fistulæ, in the Adult. The paper was reserved for publication by the reader.

A case of

Atresiæ Vaginæ with Retention of Menses

was reported by Dr. E. E. Montgomery. Miss F., aged forty-four, single, of healthy parentage, was brought to my office July 5, 1884, by Dr. Sibbald, of Wissahickon, with the following history: She commenced menstruating at sixteen, and continued without disturbance until her thirtieth year. Two years previously she had fallen upon a curbstone, receiving quite serious spinal injury, which lasted a year, when she fully recovered. The menstrual periods, which were always regular, lasting from three to four days, normal in quantity and color, at thirty became painful. Since then the pain has been constant, and increasing with each period. The discharge now lasts from seven to ten days, is of a dark bloody nature and offensive odor. During the menstrual intervals there is a continuous discharge of "corruption," as she calls it, necessitating the constant wearing of a napkin, and producing excoriation. All of these symptoms have been increasing during the past eight years, and she has been compelled to discontinue work a week or more at a time. She complains of a sensation of weight or pressure in the pelvis, attended with severe pain during defecation. There is no pain during micturition. Her nervous system has become much affected. Upon examination the vagina was found relaxed, and the external parts red and bathed with secretion. The vagina was about two inches long, ending above in a lateral cicatrix. No uterus could be felt. Upon withdrawal the finger was found bathed with a dark, thick, highly offensive discharge. The use of a Sims' speculum disclosed a cicatricial line running from side to side across the fundus of the sulcus, just posterior to which the membrane looked thinner. Slight pressure against this with a sound perforated it, and was followed by a profuse discharge of broken-down blood and pus. A pair of Ellinger's dilators was then introduced and spread to their full extent; over four ounces of the fluid flowed out. The cavity was then washed out with a carbolized solution. In this cavity above the cicatrix the uterus was found retroverted and firmly fixed, forming the roof. The cavity was dressed with carbolized glycerine on cotton. Subsequent treatment was conducted by Dr. Sibbald. He informs me that there has been no difficulty since, and that she now feels perfectly well.

Dr. W. H. Parish. That the treatment adopted in this case was proper the results showed, though it was not in accordance with the treatment directed by the text-books. We are there told to puncture the cavity with a trocar and draw off the confined liquid drop by drop. This is undoubtedly wrong, and its disadvantages have been demonstrated in my own practice. The crucial incision is undoubtedly best.

Dr. Collins related the details of a case treated in the manner of the text-books by exploratory needle, trocar, and drop-by-drop drainage. The cartilaginous membrane acting as septum was one and a half inches from the vulva, and probably congenital. A crucial incision was made after drainage, and the corners cut off, and no further trouble was experienced by the patient.

Dr. Montgomery, in closing the discussion said: As Dr. Parish has said, the free incision is best, though it was precipitated in the case related by an opening occurring during examination. The danger of septicæmia is certainly increased by a small opening. A particular point of interest in this case was the lateness in life and the time that elapsed between the injury and the retention.

Recent Literature.

Henke's Atlas of Surgical Anatomy. A Series of Plates illustrating the Application of Anatomy to Medicine and Surgery. Translated and edited by W. A. Rothacker, M. D., Pathologist to Cincinnati Hospital, etc. Cincinnati: A. E. Wilde & Co.

We are of the opinion that the translator has done a true service to the profession by the reproduction of this atlas. The original appeared some years ago, in advance of the text which was recently completed, and the reviewer well remembers recommending it to a medical friend in want of a good atlas for general use. The case of this gentleman was that of scores of professional men who want to see what structures are to be found in any particular region, and in what order they occur. They can refer to atlases of descriptive anatomy in which the various tissues are represented beautifully dissected, in which the ramifications of nerves or arteries can be followed, but only successively, which, in short, give no comprehensive view; or they may turn to frozen sections which, though true, give too limited views, and require too much study to be satisfactory. Between these extremes is the work before us, a happy combination of sections and dissections, showing many original and instructive views. The treatment is perhaps at times rather too diagrammatic. There would be considerable practical difficulty in cutting out of muscles the regularly shaped pieces with sharp edges, as appears to have been done, but the picture gains in vigor by this treatment, and the point is shown all the more emphatically. We particularly fancy some views of the abdomen in which certain parts of the intestinal canal have been removed so as to show the arrangement of the mesenteries and the position of deeper parts. Our most serious criticism of Henke's work is that he seems to have ignored the fasciæ almost entirely.

In the work before us the plates are of varying merit, some very good, others, we regret to say, of rather indifferent execution. The figures are not as

large as in the original. The names of the parts are clearly printed around the figure, and there is little difficulty in identifying them. We regret that Dr. Rothacker should have thought it advisable to change the adjective in the title from *topographical* to *surgical*, for, to our mind, one of the chief merits of the work is that it demonstrates that there is much in topographical anatomy that is not surgical. We should not close without a word of commendation of the solid binding and the good paper. T. D.

The Physiological Factor in Diagnosis, a Work for Young Practitioners. By J. MILNER FOTHERGILL, M. D. New York: William Wood & Co. 1883.

This volume of 250 pages crown octavo, from the prolific and facile pen of Dr. J. Milner Fothergill, is scarcely more than an expansion of the two little numbers of the Student's Aid Series, published by G. P. Putnam, in 1881, on Diagnosis. Of those numbers the first part, on Semeiology, was by Dr. Fothergill, and the second part, on Physical Diagnosis, by Dr. Thorowgood.

Dr. Fothergill's style is agreeable. Many of the hints which he gives have an undoubted value for young practitioners, who will be apt to find their ignorance on such subjects in direct proportion to their previous assiduity in the laboratory and lecture room, and some will profit by such a book as the one before us who would be repulsed by "sterner stuff."

The Pedigree of Disease, being Six Lectures on Temperament, Idiosyncrasy, and Diathesis, delivered in the Theatre of the Royal College of Surgeons in the Session of 1881. By JONATHAN HUTCHINSON, F. R. S., etc., etc. London: J. & A. Churchill. 1884.

Mr. Hutchinson's name, like the stamp on a coin, is of itself a guarantee of value to that which appears under it. These lectures, now published in book form, making a thin octavo volume of 140 pages, with index, were, as the title informs us, originally delivered, three years ago, before the Royal College of Surgeons, and appeared at the time in the *London Lancet*. With a few emendations they are published as originally delivered.

The methods of Darwin, to whose memory Mr. Hutchinson inscribes these pages, are followed in dealing with some of the problems of disease, methods which Sir James Paget has recently shown the fruitful possibilities of in this same direction, and which Mr. Francis Galton has made so suggestive in his treatment of sociological and physiological problems. One can hardly read what the writer actually says without being incited to further reflection and investigation in the direction pointed out, which we regard as higher praise than to bestow the too common epithet of "exhaustive treatise," a phrase which should rather be rendered as "laborious compilation."

The lectures are six in number, and group themselves in general around "the study of those differences between man and man, of which, for the most part, physiology takes no cognizance, but which may yet prove of much importance in modifying the processes of disease." The subjects, in the order presented, are temperament, idiosyncrasy, diathesis.

The "young practitioner," if intelligent, may profit by these suggestive essays, and old ones, however experienced, will find mental food which they will relish.

A New Method of Recording the Motions of the Soft Palate. By HARRISON ALLEN, M. D., Professor of Physiology in the University of Pennsylvania. P. Blakiston, Son, & Co. 1884.

Dr. Allen's method consists of passing a straight rod through the nose from before backward until it impinges against the roof of the naso-pharynx. In this position, he says, the rod is not influenced by any motions of the soft palate; but if the end of the rod which remains without the nostril be raised so that the rod be brought in contact with the anterior border of the nostril, the pharyngeal end of the rod will lie in a position which will cause a decided motion to be transmitted to it when the soft palate is raised. The subject being seated before a kymographion, which had been previously prepared with smoked paper, it was ascertained that when the free end of the lever touched the cylinder, at a time when the latter was in motion and the soft palate was raised, that a distinct tracing appeared upon the cylinder, and that the differences between the long and short sounds of the vowels were found to correspond with the curves made by the rod upon the kymographion.

Dr. Allen calls his instrument the palate-myograph. Tracings are given of the movements of the palate as it is raised in the articulation of different sounds, and in the acts of swallowing, coughing, hawking, etc. The curves show considerable variation, and are not the same for the same sounds in all individuals. They show that the palate is raised once only for some words, twice for others, and three times for others. The author points out the sources of inconstancy of the curves, but they are not sufficient, it is thought, to invalidate the claim of accuracy for the method. It is hoped that the palate-myograph will prove of use in studying the mechanism of the soft palate in disease as well as in health, also in stammering, and in determining the degree of degeneration of the levator-palati muscles in progressive dry aural catarrh. It has even been suggested by competent critics that it may be made available for the comparative study of language, for the instruction of the deaf, and for the promotion of a system of logography or short-hand writing. We hope the palate-myograph will have this brilliant future, and prove useful in all these different channels. It is certainly an ingenious instrument of precision, and will be of some real practical value. F. H. H.

— A "mountain of alum" is said to have been discovered in New Mexico. It extends over a superficial area of more than a square mile, and rises in some places to an elevation of seven hundred feet above the bed of the river. Most of the alum appears to be in an impure state, tasting strongly of sulphuric acid, but, nevertheless, some of the cliffs are said to show immense quantities of alum in a marketable condition.

Medical and Surgical Journal.

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DILATATION OF THE STOMACH.

There is no organ in the body whose well being and efficiency are more important to the general economy than the stomach, and at the same time there is none which is more abused. There is no class of diseases more common in this country than the functional or true dyspepsias, and no class whose ætiology is more difficult to disentangle, whose treatment is more difficult to direct and control.

For a long time the term "dyspepsia," like the term "bilious," was a reproach to the knowledge of the doctor, and a refuge for the ignorance of the layman. The former is no longer contented with a diagnosis which achieves nothing more than the rendering of two English words into one Greek word, and the patient himself desires to know something of the cause as well as of the symptoms.

Antiseptic surgery has robbed the peritonæum of the respect in which it was formerly held, and the surgeon no longer hesitates to attack mechanical obstructions of the stomach or intestines through the abdominal walls. We are no longer dependent upon an almost unique accidental traumatism for studying the chemistry of the stomach. In addition to increased facilities for observation we have besides in the advances of physiological chemistry, in the more careful application of the microscope to tissue changes, in the bolder use of the stomach-sound and tube, in the application of auscultation and percussion, and in the more accurate knowledge of nerve changes, distribution and influences, a far more scientific key to the interpretation of our observations upon the gastric tissues and functions, and consequently of their derangements.

Dyspepsias are being classified not arbitrarily but according to structural and chemical changes, and the name itself is more properly limited to functional disorders, to chemical derangements of the gastro-intestinal tract; these are true "dyspepsias." Mechanical obstructions are responsible for many difficult digestions, but these should not be classed in the same category as the "true dyspepsias," and again these latter will certainly before long be still further subdivided. We stand as yet only on the threshold of such advances.

In his volume on Dyspepsies Gastro-Intestinales, Monsieur Germain Sée made an important contribution to the elucidation of these functional dyspepsias, and we find him again, in company with M. Mathieu as a collaborator, contributing an interesting study to the cause, diagnosis, and treatment of a very common but not sufficiently recognized or well understood gastric phenomenon — dilatation.[1]

Dilatation of the stomach is much more common than is generally supposed, and results from a variety of causes besides the strictly mechanical ones of obstruction and excessive ingestion of food or drink — polyphagia. MM. Sée and Mathieu recognize in a certain number of cases lesions appreciable to the microscope which afford a sufficient explanation of an exaggerated dilatation of the stomach, such as fatty degeneration or the interstitial cirrhosis of those addicted to alcohol. Dilatation may ensue in a passive manner in debilitated individuals, in those who are exhausted by a general cachexia, as a result of the debility, but particularly from loss of action on the part of the muscular walls of the abdomen. Occasionally paralysis of the stomach is the only assignable cause, possibly the result of epigastric or general traumatisms. Simple dilatation of the stomach occurs most frequently in persons who present a peculiar general neurosis. It occurs as a sequence to crises which seem to indicate the successive and alternate occurrence of a special state of spasm and atony of the gastro-intestinal motor system. These crises, which are frequently painful and sometimes accompanied by diarrhœa, are repeatedly produced by an occasional or general cause, such as depressing emotions, moral shocks, or by a local cause, as excess, insufficiency, or bad quality of the alimentation. Constipation and flatulence seem to play a considerable part in the mechanism of the development of these gastro-intestinal troubles in which gastric ectasis predominates. Dyspepsia, rarely preceding dilatation, follows it frequently, and then seems to be characterized by the presence in the urine of an unusual quantity of peptones. In any case a permanent dilatation is not reached until after prolonged alternations of spasms, giving rise to pain and diarrhœa, with atony, giving rise to distention. These pathogenetic considerations have a direct bearing upon the study of the symptomatology of simple gastric dilatation, upon its diagnosis, and upon the treatment of the complex train of symptoms accompanying it. In the pursuit of these we will follow MM. Sée and Mathieu in another number.

[1] Revue de Médicine, Nos. 5 and 9, 1884.

MR. VANDERBILT'S GIFT TO THE COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

It is but a few weeks ago that we spoke of the reasons why medical men should remember the wants of their own profession, and said that medical schools in this country needed assistance because they were deprived of the government subsidies, which sustain similar institutions in certain other countries. We also tried to show that in no way could the whole community be more benefited than by fostering those things which tend to educate and elevate the medical profession. A

new era has been inaugurated since we wrote those words. Not that medical schools as a body are less needy, but the immediate wants of one school have been provided for by the gift of half a million of dollars; which amount has been given by Mr. William H. Vanderbilt to the College of Physicians and Surgeons of New York. The importance of the gift is not confined to the college which is the recipient of Mr. Vanderbilt's munificence, but its good effect will be widely felt in drawing attention to the fact that medical colleges are proper objects of benevolence. It will have an influence in drawing towards them additional gifts from the charitable until private munificence shall leave no chance for us to speak with even a show of regret of the want of governmental aid. The modern good Samaritan will not be content to bind up the wounds of a single individual, but will bestow his collected oil and wine so that it may be used for the training of men whose daily duty it shall be to attend to the relief of many unfortunates. Even a single college well endowed, so that it need have no thought whatever of the amount of its tuition fees, so that its whole ambition will find scope in providing the best possible education, must have a beneficial effect upon the profession, not merely by the character of its graduates but by stimulating other and feebler institutions to better things.

There is no immediate prospect that the laws of all the States will discriminate between physicians who have been fitted for their work and those who have not. To many men it seems of more importance that there should actually be a difference than that the distinction should be legally declared to exist. That the distinction is not always clearly marked is in great measure the fault of the medical schools which are too ready to receive as students men who are unfit to be so received and to graduate men who are unfit for graduation. Our medical schools have grown from small beginnings, and in few things is the youthfulness of our country more apparent than in the condition of these schools. The great bar to their improvement is their need of money. By the munificent gift of Mr. Vanderbilt the New York College of Physicians and Surgeons becomes, we believe, the best endowed institution now open to students. With our high ideal of the medical profession we doubt if the donor could have done a wiser act or one better calculated to benefit the community at large, and we trust it will be so wisely administered that the greatest good possible will be attained.

It is believed that a part of the donation will be used in the erection of a new building in the block between Fifty-ninth and Sixtieth Streets and Ninth and Tenth Avenues, in close proximity to Roosevelt Hospital, from which it will be separated only by Fifty-ninth Street, and within convenient access, by the elevated and surface railways, with the distant hospitals.

— The Syrian College, Beyroot, has tendered to Dr. W. P. Manton, of Detroit, the chair of Gynæcology and Obstetrics in the Medical Department of that college.

MEDICAL NOTES.

— An astonishing ruling has, according to the reports of the German medical journals, been recently made by the courts of that country on a point of alleged malpraxis. In April of the present year a serving man was wounded in the chest with a knife, and was treated by a practitioner without antiseptic precautions. The man died from septic poisoning, and the practitioner was arraigned on the charge of culpable homicide, which was upheld by the magisterial court on the ground that a medical man should be so far abreast with modern science as to avail himself of the recognized rules of treatment, and that in the case in question the practitioner should have been aware that the procedure adopted by him might lead to the death of his patient. The Reichsgericht, being appealed to, confirmed this decision. In view of the wide differences of opinion still obtaining among practitioners in England and America regarding so-called "Listerism," one cannot help thinking what havoc would be made with professional reputations and pockets were such a cause recognized in either of the latter countries as a fit ground for legal interference.

— However it may be regarding the fertility of the French people in their native land, the increase of the French population in Canada is most remarkable. A Montreal paper states that the French inhabitants of the Province of Quebec numbered 3000 in 1653. In 1763 they were 60,000. Since that date there has been no immigration from France, and many of the French have been tempted away to the States. Yet in spite of this fact the French population of the province of Quebec is now over a million. With their increase the English have diminished. The French in all the Canadian provinces number about 1,300,000.

— The Society of the Red Cross has instituted some experiments with the electric light as an aid in the search for wounded on the field. An exhibition of the experiment was made during the recent meeting of the Society at Geneva, but proved a disappointment to the spectators on account of the full moon which was shining at the time.

— An officer of the British army in India was recently, while staying at Kangra, bitten by a cobra in the hand. With great fortitude he seized his gun and blew off the finger that had been bitten. Nevertheless, when medical aid arrived he was almost insensible, and it was only by keeping him walking about all night and administering large doses of brandy and ammonia that he was pulled through. Recovery from a cobra-bite is very rare.

— The female medical students in Paris have organized a movement looking to their admission as internes in the Paris hospitals, or rather to being allowed to compete therefor. The appointment is for four years, and in the largest hospitals its responsibility and arduousness are such as to tax severely the powers of the male incumbents. But *place aux dames*.

— The *Medical and Surgical Reporter* says that during the cholera season of 1873 a French physician in Nashville declared that he never lost a cholera pa-

tient. Shortly afterward, having gained some notoriety by this assertion, he was summoned to attend a man named White. The neighbors were anxious to see the result of the Frenchman's treatment, and whenever the doctor was seen leaving White's house numerous inquiries were propounded. "How is your patient, doctor?" was asked one morning. "Ze man is dead." "What! thought you never lost a case of cholera?" "Zis was ze first case I had. You not expect a man to lose one case before he get him. I cure ze man of ze cholera, but he die of ze weakness."

— Dr. Thomas exhibited at the recent meeting of the American Gynecological Society a mediæval instrument for preventing coitus. The apparatus resembled the well-known ivory affair that was furtively exhibited to tourists at the Hôtel de Cluny. It consisted of a jointed iron belt, to encircle the hips, to which a rigid strip of iron was connected before and behind, somewhat after the manner of a T-bandage. This strip of iron was widened where it passed over the vulva, and at that place there was a slit-like fenestra with a serrated edge, the teeth being bent somewhat outward. At the situation of the anus there was another perforated expansion, circular in this instance, and that opening also was serrated. The whole was covered with ancient-looking velvet. The strip of iron which passed between the thighs was hinged to the pelvic girdle in front, but behind (perhaps to add to its discomfort) it was secured with a lock. The original lock was a remarkable antique, and bore the emblems of high nobility, — perhaps royalty. On that account his friend had desired to keep possession of it, and therefore he (Dr. Thomas) had replaced it with a small modern padlock.

— Some observations as to the relation between deaf-mutism and consanguineous marriages, especially those of first cousins, were made last year by Dr. C. A. Cameron, President of the Subsection of State Medicine of the Academy of Medicine in Ireland. On the whole, the evidence seemed to show that the effects were somewhat injurious. The statistics in reference to mutes published in the *Irish Census Reports* for 1881, and the previous decennial reports, were closely examined by the author. It appears that in Ireland, in 1881, there were 5136 mutes, of whom 135 were the children of first cousins. The author endeavored to ascertain the proportion of the population who were children of first cousins. He ascertained that amongst nearly 8000 persons the proportion was only 0.57 per cent., or less than one fourth of the rate amongst deaf-mutes. As the statistics were in great part collected amongst Protestants, the author believed that there was not in all Ireland one person in two hundred the offspring of first cousins, as marriage between such persons was very rare amongst Catholics, who formed three fourths of the population of Ireland. The general conclusion arrived at was that consanguineous marriages were a cause of deaf-mutism.

— The *Lancet* remarks that Signor Silvio Plevani, Director of the Hospital Frate Bene Fratelli, has published (May 28th) in the *Gazzetta degli Ospitali*, a paper on The Economical Preparation of Some Antiseptic Dressings. He states that tow, which is a very cheap, residual material, can be used for all surgical purposes instead of absorbent cotton, when prepared according to the following directions: Boil the tow for some time in lye made with wood ashes, or with a ten per cent. solution of carbonate of sodium; then wash it repeatedly in water. The tow thus deprived of grease is immersed in a ten per cent. solution of chloride of lime, and kept in it some hours, with occasional stirring, until it has become perfectly white. It is then washed thoroughly in pure water until the liquid squeezed from it is perfectly limpid. Drying and carding complete the process.

— At the Congress of the Sanitary Institute of Great Britain, recently held in Dublin, a Mr. Maguire read a paper in which he introduced a valuable sanitary maxim, which, however, being couched in the language of the country, took the following peculiar turn: "The best way to prevent what is past is to put a stop to it before it happens."

— "Eph, wha's de reason you doan' want Mass' Blaine 'lected?"

"'Cause he ain' no hones' man."

"Did n't he 'splain dem Mulligum lettahs?"

"Yaas."

"An' did n' he say he war marrud twy'st?"

"Yaas."

"An' doan't he swar he neber owned no lan' in Ohio?"

"Yaas, but he ain' no hones' man."

"Wha 's de reason?"

"Ain' 'e got Bright's disease?"

"S'pose 'e hes?"

"Waal, w'y doan' 'e gib it back to Bright, den?"

Correspondence.

A CORRECTION.

Mr. Editor, — In the *Boston Medical and Surgical Journal* for October 9th, on page 347, I find the following paragraph: —

"Dr. Van de Warker had seen, in consultation, a case which had been thirty hours in labor, in which the pelvis was filled with a fibroid of the posterior cervical wall. He advised enucleation, but was overruled. Cæsarean section was performed and the mother died of shock. The autopsy showed that enucleation could have been easily performed. In this case the child was saved."

The facts of the above case are these: I was notified on the evening of the 16th of June, 1881, that the patient was beginning to have labor pains. I called about ten A. M., but found her so comfortable I thought that labor had not yet commenced. About two P. M. of the 17th the husband came for me. On arriving at the house I was informed that "the waters had broken." I made an examination, and found what I thought to be the head well down in the middle straits, but could not detect the os. In a little time I made a second examination, and after giving a few whiffs of chloroform introduced my hand well up anteriorly,

when I was able to feel the os not much dilated. The pains not being very strong I did not examine again for some time. At the third examination, using both hands, I found a tumor above the pubes, and through the os detected the fontanelle; then I knew I had a more formidable case to deal with. Dr. Mercer was sent for, and under chloroform he examined the patient. I had previously tried to force up the tumor, thinking that by dislodging it I might turn should the head not engage. I now applied the forceps, and together we endeavored by various means to push up the tumor into the abdominal cavity and bring down the head. After successive efforts and failures we asked for another physician. Dr. Van de Warker was sent for, and arrived before nine A. M., seven hours after my night visit when labor had only fairly set in.

Recounting our experience to him, he said, Why not aspirate? We tried, but did not get a drop of fluid. Then one of us proposed Cæsarean section; it was conceded by the others to be the only resource left. The family were informed, and a ready consent given. Leaving Drs. Mercer and Van de Warker with the patient I started out to get the instruments required and invite a few medical friends to assist.

About noon, the patient being anæsthetized, and the table ready, Drs. Pease, Van Duyn, A. C. Mercer, Cook, Slocum, and Stevenson were admitted to the room. Dr. Pease examined the patient for the other physicians, and all deciding the Cæsarean section to be the only feasible procedure, I performed the operation. It was asked, before the abdominal wound was closed, whether it were best to remove the tumor. On examination several thought the pedicle too short and thick, and wishing to give the patient every chance it was left *in situ*. She rallied nicely from the chloroform, and I stayed with her for the succeeding eighteen hours, during part of which time she caressed her baby, complained very little of pain, took what was given her, and rested under an anodyne. She was not aware of the operation she had undergone, as I did not wish to alarm her. Some time after I had left the house some injudicious friend was allowed into the room who described to her (no doubt very graphically) the terrible ordeal she had passed through; she fainted, rallied a little, but the shock was too great, and twenty-five hours after the operation she quietly passed away.

At the autopsy, performed twenty-four hours after death by Drs. Jacobson and Elsares, Drs. Mercer, Van de Warker, Pease, and myself being present, the tumor was found to be egg-shaped, attached by a round pedicle three quarters of an inch long, one inch in diameter, to the posterior wall of the uterus, five (5) inches from os, the entire length of womb being nine (9) inches. The natural position of the tumor had been transverse, but its attachment having been a little nearer the smaller end had allowed the heavier extremity to dip down into Douglas' cul de sac. The dimensions of the tumor were, long circumference fourteen (14) inches, long diameter six (6) inches, circumference of large extremity twelve (12) inches, diameter four (4) inches. On a section being made into it the walls were found to be over one inch in thickness, hard, and unyielding; the interior resembled that of a kidney.

The capsule and tissue of the tumor were so intimately blended together that enucleation could not have been performed. From its size and consistence it would have been impracticable to have attempted ablation per vaginam. The only way to have gotten at it would have been through the abdominal walls.

In closing I would state that the specimen is now in the Histological Museum of Syracuse University.

ROBERT ABERDEIN.

SYRACUSE, *October* 20, 1884.

Miscellany.

A FRACTURE OF SKULL OF MEDICO-LEGAL INTEREST.

IN the *Edinburgh Medical Journal* (October) Mr. Nasmyth gives an account of a case having somewhat remarkable clinical symptoms, and containing important suggestions from a medico-legal point of view: —

A man was found lying dead at the side of a disused toll-house near to an inn. He was cold and stiff, his clothes soiled, and saturated with water. The night was a terribly stormy one, and during that night a great many deaths from exposure occurred, as was learned from the newspapers. The expressed belief of those who found it was that death was due to exposure. It was casually learned, however, that on the previous night a man had fallen down-stairs in the inn near to where this man was found; that he was insensible for a time, and blood came from his nose and ears or ear; inquiry showed that this person was identical with the dead man. The body was found to have clotted blood in the left ear, marks on the face, and the pupils of both eyes were widely dilated. An examination was ordered with the following result: —

Body said to be of a miner, aged about forty; height five feet ten inches; body cold; rigor mortis marked; face scratched over left cheek bone; blood in left ear; pupils widely dilated. On dissecting back the scalp, extensive effused blood found over left parietal and temporal bones. Knife grated against the skull, and on investigating a fracture of skull was found. On removing skull-cap an extensive effusion of blood was found corresponding to situation of left parietal and temporal bones, and reaching up to longitudinal suture of skull. On removing brain effused blood found at base, reaching forward to anterior lobes, posteriorly to medulla, and between the cerebrum and cerebellum. The fracture could now be seen distinctly, and was quite open at one place, allowing a scalpel to be inserted into the opening, and to pass into auditory meatus. The course of the fracture was this: Beginning in the petrous portion of the left temporal bone, near to the articulation with the sphenoid, passed into the auditory meatus, right across the squamous portion of temporal bone, up through the left parietal, and backwards in an irregular curved course. The total length, as nearly as could be measured, was about eight inches.

The following evidence as to the case was then obtained. The dead man had fallen from a height of about six feet, on the Saturday night, in the inn; he fell face forward, and his face or head alighted on the hard stone floor. He lay insensible for some minutes, but regained consciousness so far and was able to walk with assistance to one of the rooms in the inn, where cold water cloths were applied to his head and in a short time he was able to converse and smoke a pipe. He remained in this condition for at least an hour and a half, and at the closing hour he left with others who were in the house. It was noticed that he stumbled

and fell, but was able to get to his feet again. No subsequent history could be obtained, and the finding of his dead body is the next point in the evidence.

The points of importance in the case are: (1.) The length of time the man lived after receiving his extensive and deadly injuries, taking for granted that the fall down-stairs was the cause; (2.) The stage of unconsciousness after the fall, the regained consciousness, again passing into the insensibility which preceded death, evidenced by stumbling and falling as he left the inn.

The writer's explanation of the above points is as follows: —

"The severe fall caused, in the first place, concussion of the brain, as well as fracture of the skull. This concussion explained the first unconsciousness, and as it passed away he returned to his senses, and then the effects of the fracture began, namely, hæmorrhage, which from the free openings of the fracture into the ear, and under the scalp textures, could escape externally, so that at first the brain was not pressed on; as the blood accumulated under the scalp it gradually offered resistance to the external hæmorrhage, and clotting occurring in the auditory meatus stopped this outlet, so that the full effects of the pressure would now be exerted on the brain, and the stumbling and fall at the inn door were the first symptoms of this; then the gradual increase of blood, at last reaching the medulla, as the clots there showed, put an end to existence."

CROSSING THE LEGS, AND THE MODE OF SITTING.

M. Delaunay, of Paris, has made an extended and careful investigation, an account of which is given in the *British Medical Journal*, May 10, 1884, to ascertain if, in the majority of cases, the right upper and lower extremity be crossed over the left, or the left over the right, and which side most persons incline to when in the sitting posture. According to M. Delaunay, certain breeds of dogs, such as terriers, Newfoundlands, and poodles, cross the right paw over the left. The Chinese and Japanese cross the left arm over the right. Europeans cross the right over the left. M. Delaunay observed, in the *crèches* and *salles d'asiles*, that infants under three years of age cross the left arm over the right, older children crossing the right over the left, sixty per cent. doing so at six years of age. Robust children cross the right arm over the left; the idiotic and weak, including those who are incapable of working, cross the left over the right. The Calmucks and Arabs cross the right over the left like the Europeans. A great many women cross the left leg over the right. Among the opera dancers some always cross the right leg over the left, but not one the left over the right habitually; the majority cross the left over the right or the right over the left indifferently. Robust children cross the right leg over the left earlier than their weaker playmates. Persons who cross the right leg over the left lean towards the left when sitting; those who place the left uppermost lean to the right. Hence, consistently with what might have been expected from what is observed in children with regard to crossing legs, until six years of age children lean towards the right, and afterwards towards the left. French schoolmasters, it would appear, try to prevent their pupils from assuming this position, believing that scoliosis results; hence they encourage or enforce the use of elbow-rests (*accoudoirs*), which oblige the children to sit straight, — a useless measure, according to M. Delaunay, as the position they choose is in conformity with the process of evolution. Tailors affirm that the back of a pair of trousers is always more worn on the left side than on the right. Left-handed people always sit towards the right. M. Delaunay concludes from these observations that the left brain develops previously to the right, and finally the right predominates.

PROFESSOR OSLER.

It has been for some time known that Prof. William Osler, of McGill University, has been a candidate for the Professorship of Clinical Medicine in the University of Pennsylvania at Philadelphia. On the 7th inst. a meeting of the Board of Trustees of this Institution was held, and it was immediately afterwards announced to Dr. Osler that he had been unanimously elected. We congratulate most heartily our *confrère* and hitherto colleague upon this mark of the high esteem in which his professional abilities are held by the teaching men of the United States. The position he now holds he never sought. It was, in fact, offered to him without any solicitation on his part. The selection, in our opinion, does his University infinite credit, as showing that they are willing to go even beyond the boundaries of their own country to find the best man to fill such important vacancies.

The profession of this city and of this country feel that they are sustaining a great loss in thus parting with one of their ablest, most zealous, and energetic members. McGill University feels keenly the removal of one of its best teachers, and the General Hospital one of the most active members of its staff.

We feel certain that Dr. Osler will be often heard of in his new and wider field of labor, where we wish him all the success and prosperity his undoubted merits deserve. — *Canada Medical and Surgical Journal.*

THE OIL-SPOT.

About ten miles to the south of the Sabine River, which forms the boundary between Texas and Louisiana, and about a mile from the shore, there exists a natural phenomenon known to sailors as "The Oil-Spot." In fine weather there is nothing remarkable to attract the attention of a stranger; but when an angry gale from the north-east sweeps the ocean, and great crested waves rise in battle array, this charmed natural harbor reveals itself. No visible boundary divides it from the tempestuous ocean around; but within a space two miles in length *the waters remain perfectly calm*, their only change being that they become turbid and red, as though the oil-bearing mud were stirred up from below. A broad belt of white foam and towering breakers marks where the mighty waves, with all the force gathered in an unbroken sweep of seven hundred miles across the Gulf, are suddenly arrested, and sink down, conquered and powerless, so soon as they come within the mysterious influence of this gentlest of rulers.

Unfortunately, this peaceful haven is very shallow; its depth is variously stated at twelve and eighteen

feet, so that only vessels of light burden can here take shelter. But to these, blessed, indeed, is the change of passing suddenly from the wild tossing of the outer ocean to the wonderful calm of this strange harbor, where the weary crew may rest as securely as though within an encompassing coral reef. Indeed, the stranger approaching this wall of breakers would naturally assume it to be caused by a dangerous reef, and would, as a matter of course, seek safety by steering away from it.

We believe that no scientific examination of this so-called Oil-Spot has yet been made. Sailors who have here found refuge state that the bottom is of a soft, soapy mud, into which they can easily push a pole to a considerable depth — a mud which, when applied to deck-scrubbing, is found to be exceedingly cleansing. — *From "The Oil-Supply of the World," in Popular Science Monthly for November.*

BLUE EYES GOING OUT.

As the outcome of sexual selection, says *Science*, blue eyes are to disappear, at least from Europe. So predicts Mr. Alphonse de Candolle, in his paper on Heredity in the Color of the Dyes in the Human Species, recently published in the *Archives des Sciences*. In investigating the subject of heredity, it occurred to De Candolle that the color of the iris offered the best outward and visible sign. It is conspicuous; it cannot be masked by artifice; after early childhood it does not vary with age, as does the color of the hair; and the character is, on the whole, distinct. For, according to him, there are only two sorts, — black, or rather brown eyes, and blue; gray eyes being reckoned as mere varieties of the blue. From the working-up of the statistics, in part from series of observations made for the purpose, it appears, that, when both parents have eyes of the same color, 88.4 per cent of the children follow their parents in this feature; and of the 11.6 per cent. of children born with eyes of other than the parental color a part must be attributed to atavism, that is, to intermittent heredity. But the curious fact comes out, that more females than males have black or brown eyes, in the proportion, say, of 49 to 45 or of 41 to 39. Next it appears that with different-colored eyes in the two parents 53.9 per cent. of the progeny followed the fathers in being dark-eyed, and 55.9 per cent. followed their mothers in being dark-eyed. An increase of five per cent. of dark-eyed in each generation of discolorous unions must tell heavily in the course of time. It would seem, that, unless specially bred by concolorous marriages, blue-eyed belles will be scarce in the millennium.

THE INJECTION OF A SOLUTION OF SALT IN ACUTE ANÆMIA.

A contribution to the study of saline injections, intra-venous and arterial, in acute anæmia is made by Dr. Thon, who has collected reports of thirteen cases, and published them in the *Australian Medical Gazette*. In six of these cases the cause of the acute anæmia was post-partum hæmorrhage. Five out of the six patients recovered completely, and the sixth improved temporarily, but died three weeks after the operation from perforative peritonitis. The remaining cases which called for injection were as follows: One of collapse, following partial extirpation of an ovarian carcinoma; one of collapse, after poisoning by iodoform; one of collapse through loss of blood during nephrotomy; one of anæmia from secondary hæmorrhage after resection of the knee-joint; one of hæmorrhage from carcinoma of the cervix uteri; one of collapse from severe compound comminuted fracture; and one from complete collapse and anæmia during abundant hæmorrhage from an ulcer of the stomach. Three of these seven cases, from various causes, were saved by the infusion of sodium chloride, and although the rest died, there was in every case material improvement, lasting for hours and days. The strength of the solution is recommended to be six parts of pure chloride of sodium to a thousand parts of distilled water neutralized by two drops of the solution of soda. A convenient method of administering it is to place it, after being warmed to 39° C. (102.2° F.) in a cylindrical glass jar. To the base of this jar a tube 80 c. m. (twenty-six inches) long is attached, ending in a transfusion canula, which is to be inserted into the vein. The fluid makes its way very readily into the latter. From a thousand to fifteen hundred centigrammes of the solution may be employed, although in some instances not more than five hundred were found to be necessary. The injection may be made into either the basilic vein or radial artery.

SUDDEN DEATH IN CHILDBIRTH.

Dr. William T. Lusk read before the Practitioners' Society of New York, at its meeting June 6th, a case of sudden death, which the reader believed to be due to surgical shock, and remarked that text-books on obstetrics assumed that it was not possible for a woman to die of shock in parturition, but from what he had observed he was inclined to believe that death in lying-in women was not infrequently produced by that cause.

The case was as follows: —

The patient was a primipara, healthy, and twenty-three years of age. Seen first January 1st of present year at seven A. M. Patient said pains had begun on previous afternoon, and she had paced the floor all night. She said that when in motion she found it easier to bear her pains. Examination: Extreme tenderness of vagina and cervix; cervical canal dilated by head; os extended, size of half dollar; head covered tightly by membranes; no pouch. At eleven o'clock little progress. Gave chloroform, and pushed up head so as to allow bag of waters to form. This manœuvre was followed by rapid dilatation. Head in twenty minutes on perineal floor. Forceps then urged. Patient wished "glory of having her baby herself." Waited at her instance until between one and two o'clock. Patient suddenly lost color, and seemed dazed when spoken to. Applied forceps to head at vulva. Easy extraction followed by some hæmorrhage, but the latter was quickly controlled. Patient's face showed signs of complete collapse. Stimulants, warm hypodermics of brandy, and hot tea were given at short intervals. Apparent rally. At seven P. M. went to dinner, thinking period of safety reached. Patient suddenly turned in bed, and pulse became very feeble.

There was a slight rally, and then came death. Absence of respiratory troubles excluded pulmonary embolism either from venous thrombi or from air. The associated symptoms were those of surgical shock, to which the patient was, probably, predisposed by the ante-partum exhaustion. The writer argued against the rejection of surgical shock among the causes of sudden death in childbed, holding that the entry of air into veins, embolism, and pulmonary thrombosis are insufficient to account for all cases.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 18, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	648	293	25.05	16.20	10.80	1.65	6.90
Philadelphia	927,995	363	136	19.87	17.11	3.31	3.59	10.76
Brooklyn	644,526	273	130	24.09	10.59	10.59	7.30	5.84
Chicago	632,100	190	98	32.09	4.75	8.03	4.38	7.66
Boston	423,800	166	46	22.27	16.85	4.21	6.02	8.43
Baltimore	408,520	144	53	30.36	17.20	6.21	3.45	14.49
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	102	28	26.46	12.74	11.76	—	2.94
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	70	19	21.45	12·87	4.29	5.72	4.29
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	51	25	33.32	5.88	21.56	1.96	5.88
Providence	119,405	51	23	35 28	5.88	7.84	—	9.80
New Haven	62,882	26	6	23.10	11.55	3.85	7.70	11.55
Nashville	54,400	15	6	40.00	—	6.66	6.66	6.66
Charleston	52,286	39	13	17.92	2.56	5.12	2.56	5.12
Lowell	71,447	24	9	20.80	16.64	12.48	8.32	—
Worcester	69,442	25	12	28.00	8.00	12.00	—	16.00
Fall River	62,674	32	16	40.69	15.65	18.78	9.39	3.13
Cambridge	60,995	28	6	10.71	17.85	3.57	3.57	—
Lawrence	45,516	13	8	23 07	15.38	15.38	—	7.69
Lynn	44,895	20	6	30.00	30.00	5.00	10.00	5.00
Springfield	38,090	7	3	57.12	14.28	—	—	57.12
Somerville	31,350	5	1	20.00	—	—	20.00	—
Holyoke	30,515	16	10	18.75	6.25	6.25	6.25	—
New Bedford	30,144	16	7	37.50	6.25	25.00	—	12.50
Salem	29,503	7	2	14.28	28.56	14.28	—	—
Chelsea	24,347	9	3	33.33	11.11	—	11.11	22.22
Taunton	22,693	4	1	25.00	—	—	—	25.00
Gloucester	21,400	6	2	50.00	—	16.66	—	33.33
Haverhill	20,905	4	2	25.00	—	—	—	25.00
Newton	19,421	6	1	16.66	16.66	—	16.66	—
Brockton	18,323	5	1	—	10.00	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	4	2	25.00	—	—	—	—
Fitchburg	13,433	2	10	50.00	—	—	50.00	—
Eighty-six Massachusetts towns	428,279	70	20	24.30	17.16	7.15	11.44	5.72

Deaths reported 2441 (no reports from St. Louis, Cincinanti, and Pittsburg): under five years of age, 988; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 627, consumption 352, diarrhœal diseases 213, diphtheria and croup 201, lung diseases 177, typhoid fever 84, whooping-cough 41, malarial fevers 46, scarlet fever 20, measles 10, erysipelas two, puerperal fever one. From *malarial fevers*, Brooklyn 13, New Orleans 11, New York 10, Providence four, Philadelphia, Baltimore, and Charleston two each, Chicago and Nashville one each. From *whooping-cough*, New York 14, Baltimore six, District of Columbia five, Chicago and Boston four each, Brooklyn three, Nashville two, Philadelphia, New Orleans, and Lynn one each. From *scarlet fever*, New York six, Providence five, Brooklyn and Boston two each, Philadelphia, Chicago, Cambridge, Holyoke, and Newburyport one each. From *measles*, New York five, Philadelphia two, Brooklyn, District of Columbia, and Fall River one each. From *cerebro-spinal meningitis*, New York three, Philadelphia and Fall River two each, Milwaukee one. From *erysipelas*, Baltimore and Lynn one each. From *puerperal fever*, Milwaukee one.

Cases reported in Boston: typhoid fever 59, scarlatina 58, diphtheria 33, and measles six.

In 104 cities and towns of Massachusetts, with an estimated population of 1,366,324 (estimated population of the State 1,955,104), the total death-rate for the week was 17.62 against 17.84 and 18.58 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending October 4th, the death-rate was 20.1. Deaths reported 3379: infants under one year of age 1057; acute diseases of the respiratory organs (London) 184, diarrhœal diseases 281, fever 68, scarlet fever 59, whooping-cough 54, measles 37, diphtheria 37, small-pox (London 10, Birkenhead and Sunderland one each) 12. The death-rates ranged from 14.1 in Portsmouth to 31.4 in Halifax; Birkenhead 21.8; Birmingham 22.2; Bradford 20.4; Leeds 22.8; Leicester 24.4; Liverpool 22.1; London 17.2; Manchester 25.1; Nottingham 20.8; Sheffield 23.8. In Edinburgh 16.1; Glasgow 23.1; Dublin 26.3.

For the week ending October 4th, in the Swiss cities, there were 33 deaths from consumption; diarrhœal diseases 20, lung diseases seven, typhoid fever four, small-pox three, puerperal fever two, whooping-cough one. The death-rates were, at Geneva 12.2; Zurich 19.9; Basle 19.5; Berne 22.2.

The meteorological record for the week ending October 18th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Oct., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 12	29.980	66	75	62	78	91	92	87	SW	SW	SW	19	12	11	F	R	C	—	—
Mon., 13	29.940	60	75	49	90	51	72	71	SW	NW	NW	8	22	22	C	C	C	—	—
Tues., 14	30.233	42	50	39	68	39	48	52	NW	NW	NW	14	24	15	C	O	F	—	—
Wed., 15	30.286	40	48	33	55	33	60	49	NW	NW	W	15	15	8	C	C	C	—	—
Thurs., 16	30.009	48	54	33	59	58	53	57	W	SW	SW	2	5	14	O	O	O	—	—
Fri., 17	29.708	54	64	48	86	47	65	66	SW	W	NW	12	15	8	F	O	O	—	—
Sat., 18	29.878	44	51	38	60	58	83	67	W	E	NW	2	5	14	F	O	C	—	—
Mean, the Week.	30.005	50.4	60.3	43.2				64.1										4.45	0.23

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY FROM OCTOBER 18, 1884, TO OCTOBER 24, 1884.

WOLVERTON, W. D., major and surgeon. Granted one month's leave of absence, to take effect when his services can be spared by his post commander. Paragraph 4, S. O. 211, Department of the East, October 16, 1884.

VICKERY, R. S., major and surgeon. During temporary absence of Major J. C. McKee, Surgeon U. S. A., Medical Director of the Department, in addition to his other duties, will assume charge of the office of the medical director. G. O. 34, headquarters Department of California, October 8, 1884.

WINNE, C. K., captain and assistant surgeon. In addition to his duties as post surgeon at Benicia Barracks, will also attend the sick at Benicia Arsenal, Cal. S. O. 122, headquarters Department of California, October 13, 1884.

HAVARD, VALERY, captain and assistant surgeon. Assigned to temporary duty at Fort Schuyler, New York Harbor, N. Y. Paragraph 2, S. O. 211, Department of the East, October 16, 1884.

STRONG, NORTON, first lieutenant and assistant surgeon. Assigned to duty at Fort Union, N. M. S. O. 198, Department of the Missouri, October 4, 1884.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Transferred from Department of the East to Department of Dakota. S. O. 245, A. G. O., October 18, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING OCTOBER 25, 1884.

BLOODGOOD, DELAVAN. Promoted to the grade of medical director. August 22, 1884.

OBERLY, AARON S. Promoted to the grade of medical inspector. March 28, 1884.

WELLS, HENRY M. Promoted to the grade of medical inspector. August 22, 1884.

OBITUARY. DR. HERMAN VON ZEISSL.

THIS famous teacher, a contemporary and fellow-worker with Skoda, Rokitansky, and Hebra, died in Vienna on September 23d. His reputation as a syphilographer attracted vast numbers of students of all nations to the great hospital in Vienna, and his text-book on the subject enjoyed an exceptionally large circulation. He was born in Moravia in 1817, and studied medicine at Vienna, where he was subsequently offered by Hebra a ward for special investigations of syphilis. In 1850 he was appointed "Privat-Docent," his inaugural address being entitled A Compendium of the Pathology and Therapeutics of Syphilis and Venereal Diseases. This passed through two editions in the course of six weeks. In 1860 he received the Extraordinary Professorship, and in 1864 he published his chief work, A Manual of Constitutional Syphilis, which brought him considerable scientific reputation as the founder of the German dualistic school. In 1869 he was named director of the second ward for syphilis which had then recently been formed in the General Hospital. He filled this office up to a year ago, when he resigned it on account of bad health.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Surgical Section.* — There will be a meeting of the Section at 19 Boylston Place on Wednesday evening, November 5th, at 7.45 o'clock. Communication: Dr. E. H. Bradford, A Case of Subtrochanteric Osteotomy.

S. J. MIXTER, *Secretary.*

BOOKS AND PAMPHLETS RECEIVED. — Contributions to the Anatomy and Pathology of the Nervous System. Based on Researches conducted in the Private Laboratory of E. C. Spitzka, M. D. Series III. No. 3. Singular Case of Vertebral Disease associated with a Tumor in the Abdominal Cavity, etc. By Richard Mollenhauer, M. D.

Kentucky School of Medicine. Twenty-ninth Annual Announcement. Session of 1885. Louisville, Kentucky. 1884.

Hyperæsthesia. A Paper read before the Medical Association of the State of Alabama. By James T. Searcy, M. D., of Tuskaloosa. (Reprint.) Montgomery, Ala. 1884.

Transactions of the Medical Society of the State of California during the years 1883 and 1884. Sacramento.

On the Development of Physiological Chemistry and its Significance for Medicine. By Prof. Felix Hoppe-Seiler. Translated by T. Wesley Mills, M. A., M. D. McGill University, Montreal. (Reprint.) 1884.

Sanitary Control of the Food Supply. By William K. Newton, M. D., Health Officer, Paterson, N. J. Read at the last meeting of American Public Health Association. Concord, N. H. 1884.

Genital Reflexes the Result of an Abnormal Physical Condition of the Genital Organs known as Phymosis. By T. Griswold Comstock, M. A., M. D., St. Louis, Mo. (Reprint from the New York Medical Times, September, 1884.)

The Elements of Pathology. By Edward Rindfleisch, M. D., Professor of Pathological Anatomy in the University of Würzburg. Translated from the first German Edition by William H. Mercur, M. D. (University of Pennsylvania). Revised by James Tyson, M. D. Philadelphia: P. Blakiston, Son & Co. 1884.

Surgical Delusions and Follies. A Revision of the Address in Surgery for 1884 of the Medical Society of the State of Pennsylvania. By John B. Roberts, A. M., M. D. Philadelphia: P. Blakiston, Son & Co.

Myths in Medicine and Old-Time Doctors. By Alfred C. Garratt, M. D., M. M. S. S. New York and London: G. P. Putnam's Sons. 1884.

Disorders mistaken for Hydrophobia. By Charles W. Dulles, M. D. Extracted from the Transactions of the Medical Society of the State of Pennsylvania for 1844. Philadelphia.

On Sclerosis of the Spinal Cord: including Locomotor Ataxy, Spastic Spinal Paralysis, and other System Diseases of the Spinal Cord. Their Pathology, Symptoms, Diagnosis, and Treatment. By Julius Althaus, M. D., M. R. C. P., etc. With Nine Engravings. New York: G. P. Putnam's Sons.

Original Articles.

CASES OF ARSENICAL DERMATITIS.[1]

BY JAMES C. WHITE, M. D.,
Professor of Dermatology in Harvard University.

CONCERNING the possible effects of arsenic upon the skin we have a great number of recorded observations, from which it appears that nearly every form of eruption which it is capable of exhibiting in its most varied forms of disease has occurred after the administration of arsenic, and has been attributed to it: macular and erythematous efflorescences, papules, vesicles, and pustules, wheals, furuncles, and ulcers, scales, petechiæ, and pigment deposits. These have presented themselves as local manifestations of cutaneous disturbance, or universally distributed, or have simulated in their arrangement and course distinct forms of dermatoses, as the exanthemata, erythema, erysipelas, herpes, zoster, eczema, pityriasis, psoriasis, etc. Such are the phenomena which, it is claimed, have followed the internal administration of arsenic. Its action upon the cutaneous tissues may, however, be regarded as possibly always a purely local one, inasmuch as it is excreted in part by the glandular structures of the integument.

As to the effects produced by it when brought in contact with the skin in any form from without we have less positive information. Applied purposely as a caustic we know that it causes, in combination with other substances, a rapid destruction of the cutaneous tissues, or that, on the other hand, its action by dilution may be limited to that of a simple depilatory. As employed by workmen in the numerous arts in which it is used, its effects upon the skin are of all degrees of intensity from a fugitive erythema to deep-seated gangrene, and varying in extent of distribution from the limited ulceration about the nails of the taxidermist to widespread forms of dermatitis of all grades. It is my purpose in this paper to present brief notes of three cases of dermatitis, the first two of which were undoubtedly the result of direct contact with green arsenical paper, while in the third case the ætiology is so much a matter of doubt that it furnishes the reason for offering this communication to your criticism.

CASE I. A few years ago a medical student consulted me about his hands. The palmar surfaces were universally occupied by vesicles buried deeply beneath the thick horny layer, as closely approximated as possible without becoming confluent, and varying in size from a large pin's head to a medium-sized pea. They presented with their semi-translucent coverings that peculiar boiled-sago-like appearance considered to be characteristic of the so-called dysidrosis, of which pseudo-dermatosis it might have been taken as a good example. The pressure of the imprisoned fluid produced but a slight bulging of the cuticle overlying the individual efflorescences, but towards the lateral surfaces of the fingers the lesions became more prominent, and in the more yielding epidermis between them well-developed, elevated vesicles. There was considerable general thickening of the integument with much burning and itching. All these manifestations of an acute dermatitis reached their height of development in three or four days, and subsided in the course of the following week, leaving a somewhat prolonged desquamation of the palms, corresponding to the depressed roofs of the vesicles in their stage of involution, none of which were able to discharge their fluid contents. An investigation of the possible exciting causes of the trouble showed that the patient had been using, a few evenings before the onset of the inflammation, a pack of playing cards, the backs of which were covered with a large amount of arsenical green, and I had no doubt that the dermatitis was the result of such contact.

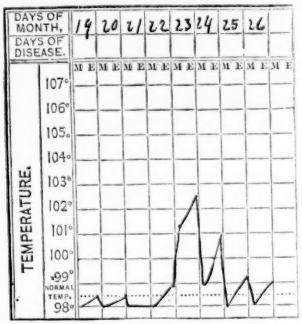
CASE II. On the 19th of March, this year, my opinion was asked with regard to a patient applying for admission to the Massachusetts General Hospital, from which he had been discharged "well" twelve days previously, after five weeks' residence on account of "anæmia and general debility." He had been at work for a week, but for two days his mouth had felt sore, and he had noticed red spots upon his hands and fore-arms. When I saw him these parts were swollen, and presented numerous erythematous patches, which in some parts had already passed into papular forms of inflammation. His face was very red and greatly swollen, so that his eyes were nearly closed. The ears were of nearly double their natural thickness, and were discharging serum. The œdema and redness extended downwards upon the neck as far as it was exposed to view only. There was also serous oozing and crust formation upon the chin.

It was evidently a case of severe artificial dermatitis, the exciting cause of which was not learned at that time. The ill-defined limits of the inflammation, the want of tenderness on pressure, and the slight constitutional disturbance showed that it was not erysipelas. On the following day, the 20th, the face presented a more general incrustation, and there was free oozing of serum from its surface. The eyes could be opened partially. On the 21st the skin of the face and neck remained as before, but the backs of the hands and fore-arms were covered with serous and sero-purulent vesicles. On the 22d the face was still more crusted, and the hair was falling in great quantity from the whole scalp. On the 23d the vesicles upon the hands and fore-arms had increased greatly in number and size, and by confluence some groups had been converted into large, prominent bullæ. There was some oozing from these parts, and crusts were beginning to form upon them. In the evening the patient's condition had become so much aggravated that I was sent for. The face was so swollen that it seemed ready to burst, and, indeed, was discharging serum profusely from numerous points. The eyes were entirely closed. The hands and arms were of enormous size, and were also dripping freely. There had been a great rise in body temperature through the day, and, as shown by the chart on next page, it was at my visit 102.5° F. The pulse was 100. The patient appeared to be in a very dull mental condition, and made but little complaint. On the following morning, the 24th, there was a free general sero-purulent exudation from the face, and the temperature rose again in the evening, but only to 101° F. From this time the inflammation of the skin subsided slowly. On the 28th the eyes could be opened, and the face was nearly free from crusts. On April 7th the patient was discharged well, although the skin of the parts affected was still reddened and desquamating.

It was learned during his illness that he had been engaged for three days previous to the appearance of the cutaneous symptoms in fastening pieces of white

[1] Read at the meeting of the American Dermatological Association, August 27, 1884.

webbing into sample books, the paper linings of which were covered with green arsenical pigment, as determined by chemical analysis. I have seen one other case of severe dermatitis of hands and arms in a boy



engaged in manufacturing elastic suspenders, but could not learn whether the fabric contained the poison. In this case, the most advanced form of cutaneous inflammation that I have ever seen of such artificial nature, and the only one accompanied by constitutional disturbance of any marked degree under my observation, there can be no doubt that the cause of the dermatitis was the arsenical paper. That other workmen employed in the same occupation were not affected in a similar manner is in accord with the general law of individuality. Another exceptional feature in the case was the stomatitis and loss of hair.

CASE III. In the last week of November I was called to see a lady on account of an affection of the skin which presented to her attending physician some unusual features. She had given birth to her first child seven weeks previously, and had made a good recovery. The disturbance of the skin began to appear one week after rising from her confinement, and five weeks after delivery. It had been in progress, therefore, two weeks when I was consulted. At this time the whole trunk was thickly occupied by slightly elevated patches of a subdued red color, varying in size from a pin's head to a dime, circular or oval in shape, and covered with very thin, firmly adherent scales. Some of the largest and oldest patches had undergone involution at their central portions and had assumed an annular form. Upon the upper arms and thighs and upon the neck there were the same appearances, but less pronounced and abundant than upon the trunk. The subjective symptoms were a slight itching or burning of the skin of the parts thus affected, and there was no constitutional disturbance excepting a mild chilliness, such as accompanies many acute dermatoses of the general surface of similar grade. The appearances strongly resembled those of multiple ringworm of the skin, and at the beginning it was thought by the attendants that the disease might be of that nature. It was also not unlike the earliest manifestations of some rare forms of psoriasis of rapid onset and general distribution, in which the scale formation is exceptionally slight. Several of the patches were scraped, and the epidermal cells thus removed with difficulty were carefully examined for the presence of fungous growth, but none was found. Acetate of potash was prescribed internally, and a cooling wash was directed to be applied to the skin.

From this time the disease extended but little more and gradually faded out of existence. Its period of evolution was three weeks, and of decline nearly as long. At the end of six weeks the skin presented no signs of the disease. The diagnosis made at the first visit was pityriasis maculata et circinata, and this opinion was adhered to during the subsequent observation of the affection; indeed the appearances and course throughout were typical of this uncommon dermatosis. As in other cases which have come under my notice, I was again impressed by the inappropriateness of the name applied to it by the French dermatologists who first recognized and described its individual character, inasmuch as the scales are a very subordinate feature in the appearances at any stage of the efflorescence.

During my early attendance upon the case my attention was called to the condition of the baby, then about two months old. It had been feeding upon a wet nurse, and was plump and of healthy appearance. During the preceding week there had developed a papular eczema upon the cheeks and a slight intertrigo behind the ears and in the folds of the neck. In spite of the treatment advised the disease increased rapidly in extent and severity, the whole face presenting within ten days a papular eruption of vivid redness, confluent and excoriated, while a considerable portion of the scalp was affected to the same degree. Upon the neck the opposing surfaces of the integument within the deep folds were intensely reddened and excoriated at their juncture at the bottom of the furrows. In the folds of the axillæ, in the groins, and in several of the deep folds on the inner surface of the thighs the skin presented the same intense grade of intertrigo. Upon the lower legs there was an ordinary papular eczema.

I continued to treat the child from December 1st to February 6th by such methods as I am accustomed to use in similar forms of cutaneous inflammation, but with very little apparent success. One expects in infantile eczema more or less frequent relapses, and possibly an indefinite extension of the disease under treatment, but relapses imply a preceding improvement. In this case I never seemed to have it under temporary control even, and the intertriginous inflammation, which generally is easily managed, behaved as obstinately as the more advanced grades of the process. After the first two or three weeks the child's digestion became disturbed, and the stools assumed a bright green color and were overfrequent. It ceased to gain in weight also. The wet nurse was changed twice, the second one because she had several attacks of acute indigestion, but with the third, a florid, healthy woman in all respects, no improvement in the child's condition took place.

On February 6th the wall paper upon its room attracted my attention (the baby had at first been brought down-stairs for my inspection), and on analysis it was found to be highly arsenical. It was an old French paper, and the pigments were loosely laid on. The patient was removed to another room, and the nursery was repapered. An immediate change in the child took place. The intestinal discharges became less frequent, and after a few days lost their green color; the intertrigo became at once less red and moist;

and there was a gain in weight during the first week of three quarters of a pound. At the end of the second week another pound had been gained, the diarrhœa had wholly ceased, the intertrigo had disappeared everywhere, and there was only a little dry and scaly eczema left upon the cheeks. All these rapid changes ensued without any alteration in the treatment employed.

On the discovery of the arsenic in large amount upon the walls of the chamber the question naturally presented itself to me: May its presumably constant presence in the air of the room not have been the cause of these extraordinary dermatoses both in mother and child? What were the conditions which would warrant the conclusion of so direct a connection between them?

A young lady with an especially delicate skin lies for four weeks in a chamber the walls of which are heavily covered with an arsenical pigment loosely laid on. One week after leaving it for another apartment there is developed over a large cutaneous surface an inflammatory process of rare occurrence, so rare, in fact, that nothing whatever is known of its ætiological relations. As soon as this chamber is vacated by the mother the infant, who has spent the first month of its life in another apartment, with its wet nurse, is transferred to the arsenical room as its permanent nursery, and in ten days begins to present an inflammatory affection of the skin, one of most common occurrence at its age, but of an unusual type. Later it develops marked intestinal disturbances. Both sets of symptoms persist to an extraordinary degree, in spite of repeated changes of treatment and nurses, until the paper is removed from the walls, when the skin and intestines rapidly return to their natural condition. The first wet nurse did not sleep in the arsenical room. The second one was in the room nearly the whole day and night, and had several attacks of vomiting and diarrhœa. The third wet nurse was in the house but a short time before the discovery of the arsenic was made. She remained well, as did the monthly nurse who had charge of the mother during her confinement and subsequently of the child for two months. The two latter nurses were especially strong women.

These are the facts. Do they furnish evidence for a suspicion that arsenic was a factor in these manifestations of disease in this household, or are they explicable on the theory of mere coincidence? If pityriasis maculata et circinata is a well-defined entity, what possible relation can arsenic have to it as cause? Eczema is one of the most common affections of early infancy; why look for any unusual agency in its production here? Has arsenic been known to produce such effects? As just stated, pityriasis maculata et circinata is a rare disease, and we have no data collected to explain its occurrence. I do not know that its association with arsenic in any way has been hitherto observed. It may be that this case furnishes a clue to the ætiology of others which have been reported, could the circumstances attending them be recalled. It certainly should be remembered in connection with those which shall be observed hereafter. With regard to the eczema in the child, it did present some very unusual peculiarities. Intertrigo in the summer months is very common as the only manifestation or in connection with other phases of eczema, but I have never met with a case in which it was so marked in every possible locality for its existence, or so little influenced by treatment in all. This feature in the winter is still more exceptional. Moreover its very rapid disappearance on the removal from the arsenical chamber was a most significant sequence.

WHAT IS REFRIGERATED BEEF?

BY H. LASSING, M. D.

Articles of food are very complex in their chemical constitution, and are exceedingly prone to return to the simpler and more stable compounds called inorganic. The principal promoters of such decomposition are moisture, oxygen, and certain minute organisms. The art of preserving food in a manner to retain its flavor and natural qualities is chiefly modern, as the ancients only understood rude methods, the principal of which were drying and salting.

Animal food may be preserved by several methods, of which the following are the chief: (1.) By immersion in a solution of common salt, to which a small portion of saltpetre is often added, called brine. This acts by abstracting the juices from the meat, and also by preventing the development of organic germs and lessening the tendency to molecular change. (2.) By packing the meat in salt, whereby the juices are abstracted, then removing it and allowing it to dry, and packing in boxes or barrels. (3.) By rubbing with common salt, and drying in the sun, or in a current of dry air. (4.) By salting and smoking, by which means, in addition to the abstraction of moisture by the salt, pyroligneous acid and creosote act upon the flesh, causing it to contract and harden, and also preventing the development of mould. (5.) By drying in a current of warm air at about 140° F., or in the open air at even a lower temperature, when the air is comparatively free from ferment germs. The latter method has long been practiced, especially for "jerked beef," throughout Spanish America and in the warmer parts of the United States. This dried meat may be reduced to powder, packed in air-tight cans, and preserved for a long time. When mixed with fat it forms the pemmican used in Arctic voyages. Spices and dried berries are sometimes added to it. (6.) By cooking to coagulate the albumen, and then inclosing in air-tight cans with exclusion of air, after the manner of canning fruits. (7.) By cooking and pickling in vinegar, a common method of preserving oysters, lobster, and fish. Cooking and seasoning and covering with melted lard or oil is a common method of preserving small fish, like sardines. (8.) By refrigerating and freezing, a process now extensively practiced in all civilized countries, fresh beef being carried from South America to all parts of the world, and in the United States from the Pacific to the Atlantic coast.

There are several special methods which might be classified under one of these heads. Appert's method, introduced in France about 1810, for which he received a prize of 12,000 francs, and which was afterwards patented in England and improved by Donkin, Hall, and Gamble, consists principally in cooking the meats at a temperature of about 240° F., and sealing in air-tight jars. The process has been improved on by McCall & Co., who add a small quantity of sulphite of soda (twelve grains to every pound of meat) to absorb traces of oxygen which may have been left. Still another improvement is the exhaustion of air from the cans by an air pump, and subsequently the passing through the can of nitrogen gas to remove all oxygen, and

then of a small quantity of sulphurous acid, and after this of nitrogen, after which the can is hermetically sealed. The merit claimed for this process is that the meat may be preserved without cooking. The process of Professor Morgan, of Dublin, consists in forcing into the aorta of the recently slaughtered animal, and thence throughout the capillary and venous system, a strong brine containing a small portion of saltpetre, by which means the blood is forced out of the system at the same time that the meat is salted. It may then be cut into pieces, and dried and smoked or preserved in brine. One objection to this process is that it washes out nutritive material. By Dr. Endemann's process the meat is cut into thin slices, and dried in a current of warm air not exceeding 140° F. It may then be ground into powder, kept in air-tight cans, and used for making soup. Mr. Laujorrois has lately communicated to the French Academy a method of preserving food by the use of fuchsine (aniline red), but this is absolutely dangerous.

After all it was reserved for Yankee ingenuity to discover a method of preserving meat in its natural state, without the addition or use of any preservative agent, and by simply shrewd observation of the requirements of the natural laws governing the slaughtering, dressing, and keeping of beef.

To explain this matter intelligently it is necessary first to consider what are the characteristics of good beef, what should be avoided, and what required in its production.

Good beef, then, should be bright red in appearance, the muscular parts firm and elastic, the fat hard and light yellow or white; it should be free from all substances calculated to expedite putrefaction, such as exuded blood, bruises, or extraneous dirt. To produce such beef it follows that the animal from which it is taken must be in a perfectly healthy condition and of the proper age when slaughtered, and that the process of slaughtering and preparing for market must be conducted in such a way as to obviate anything tending to vary from the conditions just enumerated.

Certain conditions may be enumerated which invariably tend to produce poor, unhealthy, as well as unsavory beef, while others just as surely will result in good, healthy, and appetizing meat. No one can deny that long driving and exhausting railroad journeys in crowded cattle cars, with insufficient food and water, the animals goaded, beaten, and bruised by brutal drivers, frightened by unusual noises, will cause inflammatory, congested condition of the meat, and can never result in good, wholesome beef. Again, the careless handling of the dressed meat, filth and dirt allowed to accumulate about the meat in the slaughter-house, insufficient emptying of the blood from the carcass, all injure the quality of the beef.

The blood in its normal condition almost invariably contains noxious elements. From the very nature of the double office of the circulatory system this must be so, for while, on the one hand, the blood serves to renew the various parts of the system after their ordinary wear and tear, on the other it has to carry off the natural waste of the tissues. This waste or refuse is ultimately eliminated by means of the kidneys, the sudiparous glands, etc., and then appears in its avowed character of excrementitious matter; but it must always be, to a certain extent, present in the blood, and in the event of any derangement of the action of the kidneys accumulates in considerable and highly poisonous qualities. It must, therefore, be evident that the blood is always an undesirable article of food, especially as it is impossible when an animal is slaughtered to separate the arterial from the venous blood, which would be the only means of overcoming the difficulty. "We contend," says one writer, "that to use the blood as food approximates very closely to drinking urine, and is not merely loathsome, but, *pro tanto*, unsafe. That, like liquid and solid excrement, it is valuable for plant food, and that it serves as pabulum for certain classes of animals, is no proof that it is fit for human consumption."

The old Jewish rabbins well knew the importance of this, some 1700 years ago, when they recommended that in slaughtering animals, in addition to severing the trachea and œsophagus, the blood should be poured out from the vessels of the neck, and this at a time when it was believed that arteries contained only air.

And yet another consideration, which is that beef should be long enough killed before it is cooked to have allowed of complete relaxation of the muscular contraction of the fibre without permitting even the slightest decomposition to take place. We must not for a moment lose sight of the fact that any process of decomposition may be arrested by antiseptics, yet can never be undone, or, in other words, the destructive work can never be so remedied as if it had not taken place.

It is clear, then, that healthy animals of a proper age, well rested, fed, and watered, killed in such a manner as to produce the least fright and congestion, dressed in the cleanest possible manner, completely deprived of the excessive blood and animal heat, and so kept as to prevent even the slightest decomposition, will furnish the best, most wholesome, and appetizing beef.

The last consideration is the availability of such good beef to the largest number of people. The nearer to the point of production and the more direct a product is bought from the producer the cheaper it must be.

Having thus spoken of the characteristic requisites and cost of wholesome, well-tasting beef, we will now briefly consider if such can be so found within our reach.

In Chicago, one thousand miles nearer the vast cattle-producing pastures of the Far West, are the largest stock yards in the world. Connected with the entire Union by the most extensive system of railways centering here, cattle are brought here from all directions, but more largely from the vast ranches of Montana, Colorado, Nebraska, and Texas, and after being fully rested, fed, and watered, are picked out and bought by a vast army of buyers for local use as well as for reshipment. The principal grades of cattle here represented may be divided, for our purpose, into home-raised and range cattle, and it may be stated that the quality of these latter has been vastly improved during the last few years, not only by more careful breeding, but principally from the fact that so many railroads are now operated through the country that it no longer pays to drive these range cattle on foot save for the shortest distances to the nearest railway station.

The cattle, having thus been carefully selected and purchased, are driven to the cattle-pens of the different slaughter and packing houses which surround the stock yards and form a very large suburb of Chicago.

To give a correct idea of what seems the best method

of slaughtering and dressing animals for the supply of wholesome, good beef for the Eastern markets we will now enter one of these establishments, and follow a steer from the pen to the market in Boston, New York, Liverpool, or London.

One of the largest of these beef-dressing places is located on the edge of the stock yards. These firms are known as Chicago beef dressers. It may be added here that beef dressing simply means the preparation of beef after killing by cleansing it of all uneatable débris and offal, and not, as some intelligent people even have imagined, the application to the meat of any preservative mixture or wash.

The bullock to be killed is driven from the inclosure wherein he is confined to a separate pen, and thence into a narrow stall, where he is alone by himself. Here he is stunned by one or two blows upon the head, which has a double object, — one to disable him, but the more important object is to drive all the blood possible to the brain and forward parts. After this a chain is fastened to him, and through a sliding door he is hauled upon what is called the bed of the slaughter-house. Overhead, throughout the entire buildings, are a system of iron tracks, intersecting and connected by switches, to which are attached sheaves and blocks with hooks, and these, being connected with powerful steam machinery, may be run in any direction. After the steer is thus placed upon the bed his fore feet are so placed as to open as wide as possible the opening which is to be made in his arteries, and thus make sure of the perfect and entire exit of blood. He is again knocked in the forehead until his muscles relax, when a man opens with a sharp knife one of the largest arteries in the body at the lower throat; his head is then entirely severed from the body, and by means of a chain on the hind legs he is hoisted up clear of the floor, and he is shoved into another place to make room for a fresh victim; he is again lowered on the floor, where he is placed on his back, his feet taken off, the skin taken off the belly and sides, the breast and crotch sawed open, and the caul taken off. This caul surrounding the stomach contains the purest fat in the steer, and is washed and cleansed to be converted into the finest and most valuable suet oil. At this stage the examination of the lungs is made, and if any evidence of disease is found the carcass is prepared for other uses than refrigerating, as it has already been shown that such meat will not keep. Thus in the self-interest of these Chicago beef dressers lies the greatest safety of the consumers of this kind of beef. The carcass is then wiped all over, washed free from all blood stains and other impurities; he is then hooked and hoisted up part way, the tail is cut out, furnishing ample material for the celebrated ox-tail soup, the rump is skinned, and, after being hoisted clear of the floor, two men beat down the fell on the hind legs, another takes the hide off the back, the entrails are removed, and the animal is sawn down the spine from the tail, the back is thoroughly washed off and wiped, and split down the middle; he is then hoisted further, and run on a track to more throughly drain out the blood; the hide is entirely cut off from fore legs, neck, the last attachment, and this is done in such a neat, careful way, with clean knives and hands, that the hides from this establishment bring an extra price in the market. The neck is split, and the carcass is trimmed, carefully cutting off all ragged pieces of fat or meat, all blood stains, or bruises. It is again thoroughly washed in two waters and wiped dry, when it is allowed to hang at the back of the beds near the cooler, where, after being allowed to thoroughly drip some fifteen minutes or more, it is again wiped and trimmed, and shoved in the cooler to be entirely deprived of its remaining animal heat. It will thus be seen that the carcass is not only kept very clean, thoroughly emptied of blood, being about one hour or more in transit from the pen to the cooler, but none of the meat is ever under any circumstances allowed to touch the floor. The number of men actually handling the animal from the pen to the cooler is forty-two. In addition to these there are large numbers carrying away offal, washing floors and posts, wiping the hooks and implements, so that at the close of each day's killing there is not any filthy débris or even blood left on the floor. While it is unavoidable for those who do the bloodiest work to keep from soiling their hands and clothing, they are, by the strictest discipline compelled constantly to wash their bodies, and the clothing is changed and washed at every resting spell. All débris is instantly removed and worked up to some useful purpose, so that there can be nothing remaining to cause any foul smell or decomposition; and in the various buildings on the grounds, though every process of manufacture of the débris is carried on, no smell of an objectionable nature is perceptible, and cleanliness is carried to such an extent that a lady with kid gloves could fearlessly handle the wood-work of the coolers and the meat therein contained without soil or stain. The floors of these coolers are covered with clean, dry sawdust, which is changed every other day. These coolers or refrigerators are very simple in construction, with hollow walls, having an ice chamber overhead, the cold air from which is conducted downward, and thus is kept up a constant circulation of pure air at an even temperature of about 40° F. These refrigerators have ample room to hold about 7000 cattle. The cars in which this beef is transported are built on a similar principle, and will each contain from twenty-five to thirty-four cattle. The meat is usually kept forty-three hours before shipment, by which time all animal heat is surely expelled from the meat. It is from three to four days on the way to New York, Boston, Philadelphia, or Baltimore, and on the way the ice is resupplied four times; thus beef sent from this place is at least seven days old when it reaches the New York market. In the winter time the same temperature is maintained, but the ice needs only to be replenished twice.

Beef which has been thus refrigerated will keep out of the refrigerators perfectly sweet and wholesome two days, even in the hottest weather. It is unnecessary to state that ordinary beef not so well cleansed, and not having the animal heat so thoroughly removed, will not keep nearly so long.

By actual experiment made this past summer, with the thermometer varying from 56° F. to 94° F., with two pieces of rib-roast bought in the open market, one being Chicago dressed, the other New York meat fresh killed, but both being from similar cattle as regards quality and weight, the New York killed beef decomposed the third day, while the Chicago beef was perfectly fresh and sweet on the twenty-second day, and was then cooked and eaten. Both were exposed together in the open air away from any ice box.

This concern uses about thirty-three car loads of fresh ice per day. As each car averages fourteen tons, this makes about 500 tons of ice per day.

Ice is very cheap in Chicago, so much so that it does

not even pay to manufacture artificial ice, much less to use any chemical or other artificial means of cooling.

One notable fact connected with this process of slaughtering cattle is that the hearts of animals so killed are always empty of blood, whereas those killed by other processes are generally full. Beef thus prepared is sent by rail to the coast, shipped in similar refrigerators on steamers to Liverpool and London, where it is taken out of the coolers, carted and sent by ordinary rail car to Smithfield and other markets in England, and has always been in good condition and superior to English beef. In one instance meat was thus kept forty-three days on a disabled steamer, and yet was in fair condition on arrival in England.

There has been considerable prejudice created against this so-called Chicago dressed beef by ignorant and malignant misrepresentation, sometimes willfully confounding inferior canned beef, which, because it is also packed in Chicago, has been called "Chicago beef," and again, the writer has frequently seen butchers selling Chicago dressed beef as home dressed beef, while they were vigorously declaiming against this Chicago stuff, and pointing out inferior home beef as being Chicago meat. It has got to be quite customary now with careless reporters whenever, justly or unjustly, meat has to be spoken of as the cause of sickness, glibly to describe it as Chicago beef, thus creating an unfounded prejudice against what is really a wholesome, palatable, and cheap article of diet. Many districts of country which have heretofore suffered for the want of tender, toothsome beef are now well supplied from this source. (About four thousand head of cattle are daily slaughtered in these establishments.)

Some of the prejudice against this beef has been created by the ignorance of the so-called leaders of working men, who led them to believe that by using Chicago meat they were injuring their fellow workmen along the various railroads between Chicago and the Atlantic board, as well as those in the Eastern slaughter-houses. The fallacy of this belief is too evident to require argument.

RAPID COCAINIZATION.

BY HENRY W. BRADFORD, M. D.,
Assistant Surgeon Massachusetts Charitable Eye and Ear Infirmary, Boston.
REPORTED BY WM. DUDLEY HALL, M. D.,
Second Ophthalmic and Aural Interne.

THE anæsthesia of the cornea and conjunctiva produced by the instillation of solutions of cocaine of varying strengths into the lower palpebral sac will undoubtedly be of value in ocular surgery and therapeutics, but to what extent it will replace the anæsthesia of ether remains for a longer use of the alkaloid to determine. The results thus far are very gratifying, and it is to be hoped that there will be no cause for disappointment on the part of the gentlemen who favor its introduction. Cocaine, an alkaloid obtained from the Erythroxylon coca, has been known since 1855, but its application to diseases and injuries of the eye is due to the investigations of a brilliant young German physician, Dr. Koller, of the Vienna General Hospital.

The following are cases occurring in the service of Dr. Henry W. Bradford at the Massachusetts Charitable Eye and Ear Infirmary, in which he has used cocaine from T. Metcalf & Co. for local anæsthesia.

CASE I. Male, aged twenty-five. Incised wound of the ciliary region with prolapse of the iris; right eye. Cocaine, two per cent. solution, the alkaloid having been rendered soluble by the addition of dilute hydrochloric acid. First instillation, one drop; end of third minute, cornea and conjunctiva somewhat anæsthetic, the sensibility being tested with the finger, a quill tooth-pick, blunt probes, and twisted linen cloth; end of fourth minute, one drop; end of sixth minute, cornea entirely insensible to pain, the patient being unable to indicate the precise moment of contact; end of ninth minute, third drop; twelfth minute, operation; prolapsed portion of iris seized with forceps and snipped with scissors, the patient, according to his own statement, not feeling the slightest pain.

CASE II. Male, aged fifty-five. Traumatic ulcer of cornea with hypopion; right eye. Cocaine, two per cent. solution. Both corneæ found to possess the usual amount of sensitiveness when the tests enumerated under Case I. were applied. First instillation, one drop; end of second minute, anæsthesia commencing; end of fourth minute, one drop; end of ninth minute, complete anæsthesia of cornea; conjunctiva incomplete but considerable; twelfth minute, operation; paracentesis of the cornea with a Graefe knife. Upon the introduction of the iris-forceps to dilate the opening into the anterior chamber slight pain was complained of which was not experienced after placing a drop along the line of the incision. The usual pain due to evacuation of the aqueous was not noticed.

CASE III. Male, aged forty-three. Iridectomy for lamellar cataract; left eye. Cocaine, eight per cent. solution. First instillation, one drop; end of first minute, one drop; end of second minute, one drop; no pain upon applying the usual tests; end of fourth minute, patient did not know when the finger of the operator touched the cornea unless considerable pressure was made; end of fifth minute, stop speculum was inserted, and the ordinary operation of iridectomy performed without the patient being conscious of any pain. The hæmorrhage into the anterior chamber was hardly perceptible. This patient was considerably terrified at the prospect of an operation without ether, but appeared very much surprised that it had been completed so quickly, not realizing that anything had been done beyond making an examination.

CASE IV. Male, aged sixty. Needle operation for secondary cataract; left eye. Cocaine, eight per cent. solution. First instillation, one drop; end of first minute, one drop; end of second minute, cornea anæsthetic to the before-mentioned tests; end of fourth minute, operation; cornea perforated by the needles, and the capsule ruptured. The patient, after the operation was completed, said that the discomfort he experienced was no greater than if some one had gently pulled a fold of skin on the back of his hand, and was surprised that an operation had been performed.

CASE V. Female, aged forty. Division of the internal rectus muscle for strabismus; right eye. Cocaine, eight per cent. solution. First instillation, one drop; end of first minute, one drop; end of second minute, cornea and conjunctiva anæsthetic to the usual tests; end of fourth minute, operation; stop speculum introduced; conjunctiva seized and divided. When the hook was placed under the tendon the patient resisted, and complained of pain. The hook was immediately

removed, and a drop was placed near the muscle, after which the tendon was again drawn forward, and the muscle divided without much complaint. The resistance and complaint of the patient from her description of the sensations she had experienced during the operation seemed to be induced by the unaccustomed sensation caused by the speculum stretching the lids, and the traction on the muscle by the hook rather than by the acute pain usually felt by those who submit without an anæsthetic.

Case VI. Male, aged thirty-four. Division of internal rectus muscle; left eye. Cocaine, eight per cent. solution. First instillation, one drop; end of first minute, one drop; end of second minute, conjunctiva seized with forceps, cut, and dissected up and one drop placed near the site of the muscle, which was then divided. The patient said the operation was in no wise painful; the stop speculum was used.

Case VII. Female, aged forty-seven. Modified Graefe operation for cataract; right eye; cataract hypermature, duration seven years, projection and perception normal. Cocaine eight per cent. solution, one drop instilled; at end of first minute, one drop; end of second minute, one drop, cornea anæsthetic to usual tests; end of third minute, the speculum introduced without the slightest resistance on the part of the patient, care, however, being taken not to stretch the canthi; at three and a half minutes after the first instillation the conjunctiva was seized and the cut made; at the end of fourth minute, one drop was placed upon the incision, and half a minute later the iris was seized, drawn out, and divided, the patient complaining of only a slight twinge of pain; the cystotome was used at the end of the fifth and the expulsion was completed by the end of the sixth minute, without loss of vitreous; rubbing on the cornea with the curette for the expression of the cortical substance was not felt; the speculum was removed before the end of the seventh minute. There was but little cortical, the nucleus being very large and firm; the delivery of the lens was delayed somewhat, owing to a wax-like rigidity of the surrounding tissues. The hæmorrhage from the iridectomy was very slight and transient, being in marked contrast to an iridectomy under ether. On examination with the oblique light a thickened and opaque capsule was seen. The patient wished to take ether, but was persuaded to submit to cocaine anæsthesia, and like the others expressed surprise at the absence of pain which marked the various steps of the operation.

Case VIII. Male, aged twenty-three. Foreign body, cornea right eye. Cocaine, eight per cent. solution; three instillations and removal before the end of the third minute; no pain, though considerable force was used to dislodge the piece.

Case IX. Male, aged thirty-nine. Transplantation of pterygium; right eye. Cocaine, eight per cent. solution; one drop instilled; at end of first minute cornea anæsthetic, but patient flinched when conjunctiva was seized with forceps; second drop was instilled, and the operation completed during the third minute without pain.

Case X. Male, aged thirty. Foreign body in cornea of left eye. Cocaine, eight per cent. solution; one drop instilled; removal during the second minute without pain.

Case XI. Male, aged thirty-three. Foreign body in cornea of right eye. Cocaine, eight per cent. solution; one drop instilled, and removal effected during the third minute without pain. The time of operating in this case, as in several others, was delayed somewhat in order to give those who were present at the clinic an opportunity to test the completeness of the anæsthesia, which in foreign body cases is sufficient to permit the removal during the second minute, even though only one instillation has been made.

There have been thus far in this line of cases no bad results noticed; the patient mentioned in Case I., and who was operated upon October 25th, at nine P.M., passed a comfortable night, and his eye is none the worse for this anæsthetic. The patient mentioned under Case II. who underwent operation the same evening had some pain during the night, but the pus has not reappeared in the anterior chamber; Cases III. and IV. are presumably in as good a condition as they would have been if ether had been used; Cases V. and VI. were seen two days after the operation; there was no chemosis, and subconjunctival extravasation was absent; the wound had healed kindly, the only signs of operative interference being perhaps slight displacement of the edges of the incision, and a moderate injection of the blood-vessels.

Dr. Bradford's experience with the alkaloid, when placed in his own eye in the form of an eight per cent. solution, was as follows: First instillation of one drop; at end of the first minute considerable anæsthesia of the cornea; second instillation of one drop; at end of second minute complete anæsthesia of the cornea, and at end of fourth minute conjunctiva anæsthetic; end of seventh minute slight diminution of anæsthesia of the cornea; end of eleventh minute anæsthesia of cornea and conjunctiva nearly gone; end of fifteenth minute anæsthesia totally abolished, and mydriasis commencing; there was no change in the accommodation noticed from this application.

On another occasion he instilled one drop of an eight per cent. solution at intervals of one minute, till eight drops had been used; end of first minute beginning anæsthesia of the cornea; end of second minute anæsthesia of cornea and conjunctiva; sensation of pain and contact with any of the objects used in testing abolished; a sense of pressure if considerable force was applied still noticed; up to the end of the tenth minute the sensation of pressure demanded a constant increase in force in order to be recognized; at this point the pressure sense was abolished; the medium for transmitting the force was a finger or a pen-holder; this state continued till the end of the sixteenth minute, when the pupil commenced to dilate, and there was a feeling of dryness about the eye. Anæsthesia of the conjunctiva commenced to pass away at the end of the twenty-first minute, and sensibility returned to the cornea with the thirty-third minute. The mydriasis was about two thirds and lasted over five hours. Accommodation was affected to the extent of + 1.5 D. On this as on other occasions the cornea was affected first and recovered its sensibility last. The pressure, if considerable, caused a peculiar feeling of nausea.

The motive which impelled Dr. Bradford to have these cases collected, and to prepare this paper, was the hope that there might be a method of rapid cocainization, provided a sufficiently strong solution was used and the intervals between the successive instillations sufficiently short. By the experiments upon his own eyes he found that he could obtain a complete anæsthesia of his cornea by the end of the second minute

when tested by the methods enumerated under Case I. The conjunctiva of the globe offered a greater resistance than the cornea, not becoming anæsthetic till the end of the fourth minute. By referring to Cases III.–XI. inclusive, it will be noticed that the instillations are at intervals of one minute, with almost immediate anæsthesia as a result; the reason for selecting this interval was because in his own eye there was considerable anæsthesia by the end of a minute, showing that absorption was rapid, and by continuing the instillations frequently he hoped to increase the existing anæsthesia of the first drop by each additional instillation, thus reaching the point of saturation sooner. The time for operating was when the cornea and conjunctiva lost their sensibility, excepting in certain instances, when the operation was delayed in order to give the gentlemen who were present an opportunity to examine the condition of the eye.

Case III. Iridectomy, performed during the sixth minute.

Case IV. Secondary cataract, operation during fifth minute.

Case V. Strabismus, operation during fifth and sixth minutes.

Case VI. Strabismus, operation during third minute.

Case VII. Cataract, operation during fourth, fifth, and sixth minutes.

Case VIII. Foreign body removed during third minute.

Case IX. Pterygium, operation during third minute.

Case X. Foreign body removed during second minute.

Case XI. Foreign body removed during third minute.

From the foregoing it will be seen that it is possible to perform these operations within seven minutes from the time the first instillation is made, which is a matter of considerable importance at a large clinic, where time is of value, and this celerity contrasts favorably with the delays incident upon etherization, and it is of not less importance that we have at our command an anæsthetic which permits of the utilization of artificial light without danger to the patient, the electric light being inconvenient outside of an office or hospital.

The sort of cases for which cocaine seems to be especially adapted are operations about the cornea or conjunctiva; in the removal of foreign bodies imbedded in the cornea it will probably have its widest application. Bowman's operation can be performed without pain, and the passage of probes probably facilitated by the injection of a solution into the canal or by lubricating them with the alkaloid incorporated with a proper vehicle. For a thorough examination when blepharospasm is present it is certainly of practical value.

The operations for pterygium and strabismus can be performed with ease, but a local application beneath the conjunctiva is advisable in the latter. In the operation for cataract and iridectomy it is preferable to ether, because the hyperæmic condition which exists during ordinary etherization is avoided, and there is no danger of straining, coughing, and vomiting on the part of the patient, which so tends to increase the vascularity of the part, and to favor free hæmorrhage into the anterior chamber. The mydriasis, unaccompanied by any prolonged disturbance of the accommodation, is of course an advantage over that produced by the present mydriatics when used to aid in diagnosis with ophthalmoscope. In the treatment of iritis it will probably not supersede atropine, though in combination it would perhaps be of value in relieving the nocturnal pain. In cases requiring long operative interference cocaine has a practical application from the fact that Dr. Bradford found it possible to maintain a continued anæsthesia for several hours.

OCULAR ANÆSTHESIA PRODUCED BY COCAINE.

BY CHARLES H. WILLIAMS, M. D.

In the *Medical Record* of October 11th, Dr. H. D. Noyes published a letter calling attention to the discovery of Dr. Koller, that cocaine when applied to the conjunctiva caused a local anæsthesia. Since then several cases have been published in which it has been used, and the following cases will serve as additional evidence of the great advantages which may be expected to result from its use in ophthalmic surgery.

A four per cent. aqueous solution of cocaine was obtained from Messrs. Theodore Metcalf & Co., and its effect was first tried upon my own eye with the following result: In three minutes after the instillation of one drop of this solution into the conjunctival sac of the right eye a perceptible diminution of the sensitiveness of the cornea was noticed; in five minutes this was more marked; the cornea when touched with the point of a bit of note paper felt the touch, but there was no acute pain or involuntary flinching. This effect lasted about ten minutes, when the sensitiveness of the cornea slowly returned, and was completely re-established in about twenty minutes from the time of the application. About twenty minutes after the instillation of the cocaine the pupil was seen to enlarge, and this slowly increased until it was about one and a half times the diameter of the unaffected pupil. This change continued for some three quarters of an hour, when it began to subside, and after an hour and a half only a trace of enlargement was noticeable. The range of accommodation remained nearly the same as before, but the near point was removed slightly from the affected eye. There was no change in the vision for far or near, nor any difference in the tension of the globe.

In the second experiment a drop of the same four per cent. aqueous solution was dropped into the conjunctival sac of the left eye, and this was repeated after an interval of one minute. Here, as in the other case, anæsthesia of the cornea began to be noticed in three minutes, and became quite marked in five, so that the conjunctiva could be seized with fixation forceps or the cornea rubbed with the point of note paper without producing pain, although here, as before, the touch was felt. In this case the anæsthesia of the cornea lasted nearly twenty minutes, though gradually diminishing during the last five. Enlargement of the pupil came on in about seventeen minutes, and lasted for about an hour. At one time the shape of the pupil was slightly irregular, but its reaction to light was always good. In this eye the same receding of the near point was noticed during the dilatation of the pupil, but the vision, tension, and range of accommodation remained nearly as in the other eye. Encouraged by these results I used the same solution in a

case of extraction of cataract by the modified Graefe operation.

CASE I. Mrs. C., sixty-four years old, rather stout and nervous, had double cataract. Three applications of a four per cent. solution of cocaine were made to the conjunctiva of the right eye at intervals of five minutes, and fifteen minutes after the first instillation the operation was performed. The ocular conjunctiva was seized by the fixation forceps, and the patient not being warned the corneal cut was made without her knowing it. The operation was completed without difficulty, and the patient was surprised to find that everything was finished.

CASE II. Mr. E., traumatic cataract, with piece of metal lodged in the lens. August 8th, while using a hammer and chisel, a piece of metal flew into the right eye. Examination showed a penetrating wound of the cornea about one millimetre long at the upper and inner side of the pupil; also a slight wound of the capsule of the lens nearly in the centre, and imbedded in the lens at the outer and lower side of the pupil was a small, glistening fragment of metal. The fundus was normal. He was kept under observation for some days, but no opacity of the lens appearing, nor any irritability of the eye, he was allowed to go back to work. September 22d, nearly a month and a half after the original injury, he was again seen. The corneal and capsular scars remained unchanged; there was no opacity visible in the lens, and the bright metal could still be seen imbedded in the lenticular substance. Vision normal in the left eye and nearly normal in the injured eye. October 29th he presented himself suffering with much pain in the injured eye; there was a considerable circumcorneal injection; the lens was entirely opaque and swollen; the iris was pushed forward, and the pupil somewhat enlarged; given atropine one per cent. October 30th two drops of a four per cent. solution of cocaine were dropped into the conjunctival sac, and this was repeated in five minutes. After an interval of five minutes the foreign body and lens were removed by suction, without causing any discomfort to the patient. A spring speculum being placed between the lids, an opening was made through the upper part of the cornea with a bent, broad needle, large enough to admit easily a hollow suction tube measuring three millimetres across. Gentle suction being now made by the mouth, by means of a rubber tube and mouthpiece attached to the instrument, a portion of the lens was removed. It was then found that the tube had become clogged, and on withdrawing it the piece of steel, shaped like an arrow head, about one millimetre across, was found plugging the opening in the metal suction tube. This being removed, the rest of the lens was extracted by suction, and before the bandage was applied the patient could count fingers at one meter. There was no complaint of pain during the operation, nor any involuntary motion of the eye.

CASE III. Stricture of the lower part of the lachrymal canal. On probing, after two applications of a four per cent. solution of cocaine, there was less pain than before without it, but even with the cocaine the pain was appreciable.

CASE IV. Granular conjunctivitis with pannus. One application of the same solution of cocaine was made to the conjunctiva, and ten minutes later, when the lids were touched with the crayon of sulphate of copper, very little pain was felt, although in the other eye the pain was quite severe.

A DISCUSSION OF SOME OF THE QUESTIONS OF MEDICAL EDUCATION AND MEDICAL ETHICS.[1]

BY HENRY LEFFMANN, M. D., D. D. S.

FROM the valuable volume on medical education published by the State Board of Health of Illinois we learn that the United States contains 123 medical colleges, of which ninety-one are classed as regular. The Illinois Board has been an active one, has adopted a list of minimum requirements for admission and graduation, and in conjunction with other State Boards has accomplished much for medical reform, as the following figures will show: Prior to its present organization thirty of the regular colleges required an admission examination, now fifty-nine require it, and this number will doubtless be largely increased next year. Ten colleges formerly required three courses of lectures, sixteen now require them. The course of instruction has in many institutions been improved by the addition of chairs of hygiene and medical jurisprudence. A part of these improvements has been brought about by the natural progress of educational methods, and by the desire on the part of teachers to add to the attractions of their institutions, but a portion is also in deference to the demands of the State Boards.

A perusal of the volume referred to, in which the requirements and facilities of the colleges are set forth, shows us how very unequal is the character of the education given in different parts of the country. With some of these institutions the course of study must be a mere pretense.

It has been apparent for many years that active measures must be taken for securing reform in medical education. In considering the topic we must bear in mind the responsible position which the medical man holds in society. He is no longer called upon merely "to give the potions and the motions." Education and legislation, the control of which has for centuries been in the hands of clergymen and lawyers, is becoming largely a medical problem, and the well-informed physician becomes a factor of no mean importance in social progress. At the same time the requirements of a thorough medical education, in the narrowest sense of the term, — that is, a knowledge of disease and its treatment — has become a problem of far greater difficulty than it was a generation ago. A correct and sufficient knowledge of the instruments of precision requires an acquaintance with various accessory sciences. The laryngoscope and ophthalmoscope involve optical principles, the elaborate electrical machinery employed calls for a more than rudimentary acquaintance with mathematics and physics, and the many chemical tests which are required for diagnosis involve a need for some practice in the chemical laboratory. On the other hand, the importance of classical training has been overrated, and in the preliminaries to a medical education it may receive scarcely any attention, but its place is supplied by two of the modern languages in which so much of the important scientific literature is found.

In offering a synopsis of the directions which medical reform should take I may conveniently present the topic under four heads: first, the preliminary examination; second, the course of study; third, the method of graduation; fourth, the ethical relations.

[1] Read before the Philadelphia County Medical Society, September 24, 1884.

The preliminary training presents great difficulties. It is nearly impossible to say what amount of actual information would be the minimum which should qualify a young man or woman to enter the study of medicine, and the opponents of the admission-examination system have urged this as an objection, and have spoken about "natural aptitude" in those comparatively uneducated, "rough diamonds," etc., which are likely to be unjustly excluded on account of technical deficiencies. Yet it must be noted that all colleges and high schools conferring degrees other than those of medicine have always had such conditions of admission, and no one has ever thought the obligation burdensome. I do not think that the requirements for admission to medical schools should include a knowledge of the dead languages, except, possibly, an acquaintance with the regular declensions of Latin nouns — a degree of information which could be acquired in a few hours; the value of the knowledge is only its bearing on correct prescription-writing. I take issue, therefore, with such conditions as those imposed by Harvard College, which requires the translation of easy Latin prose, and also the schedule of the Medical Society of this State, which imposes a knowledge of this tongue. On the other hand, an elementary knowledge of algebra and geometry is essential to a correct understanding of the teachings of chemistry, electro-therapeutics, and ophthalmology, and from practical experience I know that insufficient preparation in these matters has cost many a student a vast amount of labor and study. It is not at all improbable that as the standard rises some of the essentials of anatomy and chemistry will be entered among the preliminary requirements.

I must also object to the following requirements in the Pennsylvania schedule: botany, logic, drawing, Greek, political economy, and algebra, except to simple equations. Botany, as generally studied, is a mere accomplishment, and its practical value in medical science is very small. Political economy is, in my opinion, a department of science in which the danger of a little learning is very serious; it has no elements.

We must by all means regard the preliminary examination as a protection to the pupil. It is said that one of the head masters of Eton would not infrequently say to the scholar about to be thrashed, "Sir, this is the office of a true friendship." Pupils do not take kindly to admission examinations, and it will be more difficult to enforce them in medical colleges because every one has become accustomed to the unrestricted acceptance of students.

An effort will have to be made to secure for this examination an approach to uniformity among the different colleges. It will not amount to much if each institution is allowed to set up the standard for itself, and to determine privately how far each pupil attains it. It is hinted that in some institutions which have made great claims on account of their admission requirements, and the diplomas of which have received special privileges abroad, the examination is a mere form. The attitude which the Medical Society of Pennsylvania holds in reference to this topic is very unsatisfactory. For years it has been adopting resolutions and threatening punishment, but it seems never to get its courage up to the point of insisting on reform. These standing resolutions appear to be remarkable for little else than their hollowness and insincerity.

Opportunities for great improvement are to be found in the course of study. It would be curious to know under what circumstances originated the extraordinary method of medical instruction according to which the student is not to know anything, however easy, if he has heard it once, and to know everything, however difficult, when he has heard it twice. I cannot see that this state of affairs is materially improved by extending the term over three years. It relieves, perhaps, the pressure of study, but it only nominally lengthens the course. It is now generally thought that the science and art of medicine cannot be acquired in two years, and most of the American colleges state in their announcements that the candidate for graduation must have studied three years. The usual plan is, however, to allow these three years to be two courses of lectures, and one year under a preceptor, whose certificate to that effect is generally taken. When it is remembered how easy it is to secure such certificates, and how irregular and uncertain is the instruction often given by preceptors, it will be seen that this preliminary year may be a fiction. If a year outside of college is to be counted at all it should be upon a record dated at the beginning of the year; that is, the pupil should produce evidence of having declared his intention to pursue his studies for a year in a physician's office. I do not think, however, that this matter will require much attention, for the pre-college year will soon be abandoned. Another method by which the study is cut down to short periods and insufficient work is the practice of giving credit at one college for the time spent at another. As a general rule the evidence of the prior study is merely the statement of the pupil and the exhibition of a full set of tickets. Neither of these is sufficient proof of actual attendance, and even if they were there would still be no proof of the student's fitness to proceed with the second course. The proper test of the student's fitness to proceed with his studies is an examination. This is the test that non-medical colleges would apply.

The most radical improvement that I have to suggest is that to which I have already referred in a paper before the Medical Society of Pennsylvania, namely, that the full college course should include a recognition of each specialty, and offer the option of pursuing the study of one or more of them, not as side studies or post-graduate courses under junior teachers, but as part of the requirements of graduation. I have compared this plan to that under which the universities give courses of instruction in mechanical, mining, or civil engineering, the option of one or the other being left to the student. The whole tendency of medical practice is towards specialism, and one of the difficulties of maintaining the ethical standard is the constant struggle of specialists to draw attention of the community at large to their lines of practice. Forbidden to advertise directly, they seek methods that are illegitimate. I think it will be admitted that the best interests of the profession and the public are subserved when the patient is directed to the proper physician with the least inconvenience, delay, or confusion. Those who object to specialism forget that the degree of M. D. is itself a special degree, and limits the service of those who bear it. No one objects to the degree of D. D. S., and no one can deny that the value of dentistry has been vastly improved by the establishment of colleges and the creation of the degree. Why should we not multiply these degrees, and so arrange the college courses that each

might be conferred on those who prepare for it? Doctor of ophthalmology, otology, or dermatology may seem strange to our ears, but they are as reasonable as the titles bachelor of science, of mining, or of music now conferred by the universities. *The Journal of the American Medical Association* has declared it allowable for a physician to put on his card "practice limited to such and such diseases," but I do not think that this view has been generally accepted. The proper method to secure recognition is by degrees, which indicate that studies have been pursued which fit the practitioner for the work undertaken. "John Smith, M. D., D. D. S.," is the legitimate manner of showing that the said person has pursued a course of study in general medicine, and then in a special department. I cannot see why "John Smith, M. D. O." should not indicate the same with regard to ophthalmology. I wish to present the idea that these special degrees should all be in the compass of a regular medical school; the studies for the first year would be the same for every degree, but in the second and third years they should be directed to the end in view. I consider this preferable to forcing all into the same studies and then resorting to post-graduate instruction as a preparation for practice. Instead of a faculty of seven chairs it would be more satisfactory to have fourteen. There is no good reason why the instructors of diseases of the eye, ear, or mind, and nervous system should not stand on an equal footing with the professor of gynæcology or obstetrics, instead of being, as they now are, mere appendages to some chair, or recognized only as subsidiary summer lectureships. That some of these departments cannot be satisfactorily included within the original chairs is because they are, for the most part, developments of late years. Sanitary science, psychiatry, and inebriety have become distinct sciences. The first has acquired so much importance that in some States of the Union a knowledge of it is necessary to the validity of a medical degree.

It is not possible to present here all the details of college instruction, but I think that a few words should be said about the thesis. As a rule, it is of little value. Under the system of preliminary and term examination it will have less value, for it is now looked upon mainly as an index of general proficiency in orthography and grammar. It would be unreasonable to expect students to produce anything of scientific value. There are, however, some exceptions, and it is not unwise to extend direct encouragement to those who seem to possess the means and desire for original work, and to reward the effort in proportion to its merit. I would, therefore, say that no theses should be exacted, except those that are to compete for prizes, and that, after the award is made, all that are deemed worthy of mention should be published.

In this connection I wish to allude to a department of instruction for which there is special need in this country, that is, medical jurisprudence. It is a common opinion that the mere fact of a man being a doctor fits him for expert service, whereas there is very little attention given to the topic in medical schools. The recent suggestion of Dr. Bronadel, made before the French Society of Legal Medicine, seems most admirable. It is that a regular college, or at least a regular course of instruction, should be instituted in medical jurisprudence, the evidence of proficiency being in the conferring of such a title as Doctor of Medical Jurisprudence. Only persons bearing such title would be competent experts, and undoubtedly in such an arrangement some of the objectionable features of expert testimony would disappear.

I think it cannot be denied that a feeling is gaining ground in the community that the right to practice medicine is one that should be more completely under State regulation than at present. The objects to be sought are that all practitioners shall be able, and as nearly as possible equally able, and the latter cannot be attained as long as the graduation is made to depend on the standard set up by individual institutions. The transfer of the work of examination to a State Board, and the conversion of the colleges to centres of instruction only, would solve several of the troublesome problems of college management. The faculties would surely not regret the loss of the labor of either the oral or written examination. It would place competent and efficient teachers on a much higher plane than they now are, while it would go far towards crowding out inefficient ones, for each examination would be a record of the manner in which the candidate was prepared. These State Boards should accept any one who could bring certificates of good moral character, proper age, sufficient preliminary training, three years' study under instructors recognized by the Board. Under the present arrangement a student attending any given college is obliged to take all his instruction from the Faculty thereof. If one or more of the professors are inefficient he must take extra time and spend extra money to get proper preparation. Under the system here advocated he could select his instructors from the dierent faculties accessible to him. Such a weeding process would very soon throw out the weak teachers, and form faculties strong at all points, and this surely would be to the advantage of the profession and its education.

A vital question that arises in reference to State Boards is their relation to the different schools of practice into which the medical profession is unfortunately broken. It is the fear of the homœopathic portion that has in part prevented the establishment of these boards. They are afraid that they will be used for the purpose of preventing any but regulars from getting into practice. They have insisted on, and I believe obtained in most cases, recognition and representation. I desire not to be narrow or bigoted, but I cannot divest myself of the impression that it is thoroughly absurd to suppose that there can be two systems of therapeutics; but, however this may be, the course to be pursued by the State is plain. The majority must rule, and the system which is most comprehensive must be insisted upon. There can be no question that the majority of both learned and unlearned persons in such a community as ours favors what is known as the regular system. On this ground, therefore, a knowledge of that system should be required for practice. Those who desire to pursue any special system might, in addition, be required to pass an examination in the special features of that system.

The adoption of the system of official supervision will be slow, but the profession, especially of the larger commonwealths, has it in its power to anticipate the system in a tolerably satisfactory manner; that is, by means of examinations before committees of the State or County Medical Society, these examinations being in addition to those given by the Faculty. One of the New England colleges already has this plan, and an analogous method has been in use in the College of

Pharmacy of this city, a committee of the Alumni Association giving a set of questions covering the principal branches of study.

The vexed question of medical ethics is not a suitable one for general discussion, but I cannot close this paper without expressing my agreement with the views advanced by Dr. Gihon, at the Cleveland (1883) meeting of the American Medical Association. Times have changed, and medical education has much changed, since the section of the Code was written which proscribes as irregular any one "whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry." Under State Boards, all students would be obliged to pursue these studies, even if the different colleges did not have them of their own accord. I am not disposed to advocate consultation with non-regulars, but I think that the ethical error at the present time is, that while many are excluded who are only nominally at variance with the requirements of the Code, many are admitted who are only nominally in agreement with it. The standard for admission of a physician to professional relations ought to be his moral character and educational attainments. Failing in these, it seems to me he is unfit, though he proclaim ever so loudly his faith in the letter of the law, and sign ever so often a printed promise to abide by it. In the words of Dr. Gihon, "Medical education is the true standard of medical ethics."

I have brought this paper forward with a view of eliciting discussion on all the points, but particularly on those that seem new. To me the fallacies, if any exist, in the arguments are not observable; but those who approach the question from a different point of view may discern them, and I trust any such weak spots will be pointed out. I expect that it will be urged in objection to some of the schemes that they would involve too complicated arrangements, but I think this is most in apprehension, not a reality. I presented views somewhat similar in a paper read before the Medical Society of Pennsylvania, but of course no opportunity was there presented to discuss it. The question of advance in medical education appears to be attracting more attention in the West than in the East, and we may infer that the reforms which the colleges will not of themselves make will be forced upon them by the official requirements. The Illinois State Board of Health has adopted the following as the minimum requirements to constitute a college in good standing, and the Nebraska State Medical Society has adopted them as conditions of eligibility to membership: —

Conditions of Admission. — Credible certificates of good moral character. Diplomas of Literary College or Preliminary Examination in English, Mathematics, and Elementary Physics.

Branches to be Taught. — Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Theory and Practice of Medicine, Pathology, Surgery, Obstetrics and Gynæcology, Hygiene, Medical Jurisprudence.

Length of Courses of Lectures. — Two of not less than twenty weeks, and not more than one course in same year.

Attendance. — Regular attendance, absence by sickness only allowed, and not to exceed twenty per cent. of the course. Examinations by quiz twice a week. Final examination to be conducted when practicable by other than professors.

Dissections and Hospital Work. — Two courses of each.

Duration of Study. — Not less than three years.

The college must show that it has a sufficient corps of instructors and facilities for hospital work.

The points presented for discussion to-night are: —

What should be the extent of the preliminary requirements, and how should they be ascertained?

How far should specialization of the course be carried, and would it be feasible to confer special degrees?

Could such a special degree, as Doctor of Medical Jurisprudence, be conferred, and would it be of advantage?

Would the profession and the community be benefited by a State Board of Examiners, who alone should have power to grant licenses?

If a State Board should be established, do the interests of the higher education require that any but regular practitioners should be represented on it?

In case a student transfers himself from one college to another of equal standing, should he be subjected to an examination with a view to determine his fitness to pursue his studies?

Reports of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

SEPTEMBER 24, 1884. DR. LEFFMANN read a paper on

MEDICAL EDUCATION.[1]

DR. OSCAR H. ALLIS, in opening the discussion by request of the Chair, said: The whole matter of medical education, as it confronts us to-day, is, not what we would desire, but what is the best course to pursue under existing circumstances.

Were I to map out a plan that I should feel would advance the student of medicine most rapidly, and prove of the highest permanent good, I would insist upon a judicious and adequate preliminary course of study.

But viewing matters as they are, such a standard is impractical, and this the lecturer knows too well. I would, then, take the student just as he is, presuming, of course, he has made sufficient advancement in the rudiments of an English education, and at the very outset of his medical education put him with instructors in the practical branches of his course, thus bringing teacher and pupil into daily and hourly contact, rather than have them meet but once, and that at the end of a short two years' course of study.

We all have our ideals. Were I to found a medical college, some such preparatory course would be adopted, and no one would be permitted to attend upon the lectures of the professors until he had mastered the elementary branches, such as anatomy, chemistry, materia medica, and the like, under competent teachers, and with all the advantages of laboratory and class instruction. For my own part I know of nothing more unsatisfactory, more distracting, than for a surgeon to attempt to explain the nature, importance, or difficulties of an operation to a class half of whom have never entered a dissecting room. He must either ignore the freshman or descend to his level, and in either case doing new-comers, the advance pupil, and himself, great injustice.

If I understand the lecturer correctly, he would dispense with the preliminary examination, such as now demanded by the Medical Society of the State of Pennsylvania and in many of the medical colleges throughout the land. With this I cannot agree. I know of no

[1] See page 440 of this number of the JOURNAL.

better time or place to ascertain the fitness of the student for his work than at home and at the outset of his studies. Preliminary examinations are meant to deter only those whose elementary studies have been grossly neglected.

Dr. William Pepper: Mr. President, when I received your special invitation, I determined to be present this evening in order to benefit from the views of others. I will, however, make a few brief remarks upon some of the points touched upon by Dr. Leffmann; and first, as to preliminary examination: I think it is a great thing to have one, and even though it be not adequate nor properly enforced, still the mere statement that there will be an examination deters lazy and badly-prepared students from even applying; and if a mere shadow of one be thus useful, we may imagine how valuable uniform and properly enforced examinations will be. Unfortunately, there are but few colleges which exact them, and it is a question for the profession at large to decide whether all colleges shall or shall not establish this essential requisite of good education.

So long as students are sent to colleges which have no such preliminary examination, and which have a comparatively low standard of requirements, so long will such colleges continue in their course. In regard to the character of the preliminary examinations, I consider a good knowledge of mathematics and of physics, together with the elements of a good English education, of much more consequence than the classics, and I would willingly accept proficiency in modern English as a substitute for the latter.

I do not believe in differentiation of medical studies at an early period. It is true that modern practice leads to more and more specialization, but unless we insist that the specialist shall have the broadest general education his value as a specialist is greatly endangered, and I cannot help feeling that if students were to be encouraged at an early period of their course, as being engaged for fitting themselves for this or that specialty, the tendency to concentrate their attention upon it to the serious neglect of the necessary elementary branches would be insuperable. Equally strenuously must I object to any increase in the number of degrees. Already the variety of degrees bestowed by American colleges is ridiculous, and if we were to enter upon the practice of giving different special degrees for attainments in different specialties no one could foretell the chaos of titles which would result. The truly reliable specialist readily becomes sufficiently distinguished in the esteem and confidence of the community.

I cordially agree with Dr. Leffmann with reference to a State Board of Examiners, but until that becomes possible our final examination should be made more practical. The candidate for graduation should be compelled to show his knowledge in actual diagnosis and the direction of treatment, and it will be easy to invite several disinterested physicians to attend such examinations, which would thus acquire almost the success of those conducted by a State Board. In colleges where a suitable preliminary examination is held, the thesis seems to me to no longer possess much value, and I would suggest substituting for it the preparation in each term of one or more clinical records by every student, which would certainly serve not only as a test of literary qualifications, but as evidence of their close attention to practical teaching. I would further offer prizes of special grade of merit for voluntary theses, based upon original investigations.

With reference to the time of beginning clinical studies: I realize the difficulty of lecturing to an audience a considerable portion of which are still ignorant of the very rudiments. There is, however, a kind of practical instruction which is really clinical, which should begin at the very outset of the student's course, and for which I am happy to say provision has now been made in the University of Pennsylvania. I refer to the demonstration before small sections, with careful training of each individual student in the perception of the normal physical signs. This will afford most valuable training for the first-year students, while it will enable the student in his last year to receive true clinical teaching in the wards, instead of being compelled, as is now too often the case, to spend his last year in elementary practical work, which could be mastered by the veriest tyro.

Dr. Charles K. Mills: I do not agree with the views presented by Dr. Leffmann on the granting of degrees for attainments in specialties, but rather with those of Dr. Pepper. It would be unfortunate to multiply the number of degrees. It is highly important, however, to have instruction and examinations more specialized. As it is now the examinations are only on seven or eight branches. Nothing so stimulates the student as the knowledge that he will be examined on his work. The thing to do, as long as examinations are still held by the colleges, is to specialize them as much as possible. There is no danger of this making specialists, though the giving of the degrees mentioned might have the tendency to check pseudo-specialists. It is well known that the University of Pennsylvania has recently added a fourth year for special instruction to under-graduates and graduates. An examination is held on each branch. Those who took this course last year went before the Examining Board of one of our large hospitals for examination for the position of internes. More than half were successful, though no specialists were on the Board; an excellent showing for the method of instruction and examination pursued in their cases.

Every institution should have at least a full and regular course on medical jurisprudence, but it is a mistake to suppose that a general course of this kind will of itself make medico-legal experts. It will further and more fully equip those who are already medical experts in special departments. The physician of the specialty concerned becomes the true expert in the case under trial, and as these are diverse there cannot be a general professional expert. The question involved may be one of insanity, nerve injury, ophthalmology, poisoning, etc., requiring a physician who has especially devoted himself to a certain line of work for many years.

Dr. J. E. Garretson: I compliment the man who, in this dollar-and-cent age, directs attention to the flaws in American medical education at the expense of his pocket. A full half of the young men that come to Philadelphia to study medicine should be turned face about and sent to a village school. Examinations are against big classes, while little classes are against the exchequer. It is a pity that the medical schools are not endowed; otherwise, it is a pity that American professors are not, like the Germans, able to subsist on lager beer and pretzels. Personally I favor preliminary examinations, or, if this be not democratic, be not

what people call "giving a fair chance," why then let a student, even though he be dull as a clod, be allowed to enter the freshman class, but let him be kept in this class until he helps himself out of and over it. Going to school is synonymous with growing a medical junior. If a freshman fall short of an *m* in inflammation, or if he insist on spelling college with a *d*, it hardly seems unfair that time be allowed him to turn to a dictionary which shall be neither Dunglison's nor Thomas's. Perhaps, when all is said, time, and not examination, is the thing. Two years for the making of a doctor! Is it not farcical? This paper, by the essayist of the evening, should receive every attention; it has the ring of science, and not of silver. If it be not for a good to ourselves, why then for the benefit of the world, let not the doctorate be cheapened. Already the degree is not what it once was. The matter of standing is now in personality, not in a degree. No diploma seems safe in the hands of the democratic American. To-day boys are found full-grown doctors of philosophy.

DR. JOHN B. ROBERTS: Mr. President, I fully recognize the importance of a preliminary examination to the intending student himself, for I believe he had better prepare for the preliminary examination of the succeeding college year than to enter college a year earlier with a deficient knowledge of fundamental educational branches. The argument that a poor student, deficient in education, cannot afford to wait a year before beginning medical studies is specious. Let him work at the plow or desk that year, buy a few second-hand books, devote two hours a day to study, and he will not only be making money, but will, at the year's end, be able to pass a preliminary examination. Thereafter medical studies will be intelligible to him, the final examination more easy, and a higher professional income assured. A year will not be lost, but gained.

While I believe the preliminary examination advantageous to the pupil, and therefore indorse it, I deem it unnecessary if the medical colleges could be compelled to adopt a high-grade final examination. The examination then should be partially written. As the United States Naval and Army Boards need no preliminary examination, so would medical colleges need none. I know that in the Naval Board, and probably in the Army Board also, many candidates, though graduates of noted schools, are rejected because of inefficient general education before they come to the professional examination. A man who cannot write a simple record of his own life, in his mother tongue, is not apt to reach the professional examination before the Examining Boards, composed, as they are, of men whose duty is simply to find out what the candidate knows. This shows the advantage of examining boards whose income does not depend on the number of candidates passed.

My former experience as a quiz master gives me some right to speak of the defective knowledge often found in advanced medical students. I have also read some graduation theses. Perhaps some other members of this Society have enjoyed that high privilege. If any such are present they will remember the circumstance because of the ludicrousness of the high-sounding name "thesis." The Paris theses are printed, and often referred to as sources of medical information. A collection of all the theses presented to the American medical colleges during the last five years would be more entertaining than that book of books, English as She is Spoke, and no Mark Twain's preface would be needed.

Does it not seem strange that the profession of Pennsylvania should take no radical step to elevate medical education, when Illinois, Virginia, and even the youthful Nebraska have struck terror into the heart of the half-educated graduate. The State Board of Health of Illinois will not recognize a diploma as entitling the holder to a certificate for permission to practice in Illinois if the college granting it falls below the minimum schedule. This schedule requires a preliminary examination or equivalent documentary evidence and teaching in hygiene and medical jurisprudence in addition to the ordinary branches. It also demands three full years of professional study, quizzes at least twice a week, and the final examinations to be conducted, when practicable, by examiners other than the professors.[1] How rigidly this standard is enforced I am unable to say, but I know that a graduate of last year in this city, who intended settling in Chicago, showed me a few months ago his papers telling him to appear for examination in hygiene before the Board. What a slur upon Pennsylvania medical teaching! A Philadelphia doctor who graduates with honors cannot practice on the western prairie until he is examined as to his professional knowledge. In other words, he is a good enough physician for old Philadelphia but not for the young West. Humiliating, truly! but not to Illinois.

Virginia has done even better, for she has established a State Board of Medical Examiners, before which every applicant for practice, after January 1, 1885, must pass a satisfactory examination before receiving a license to practice medicine or surgery. Two examiners-at-large are to be elected by the Society, three from each of the ten electoral districts of the State. A fine of $500 is to be imposed upon those who do not comply with the terms of the law.[2]

The Nebraska State Medical Society also is on the alert, and will accept as member no physician who is a graduate of a college falling below the requirements of the Illinois State Board of Health.[3] Those requirements I have already indicated. Philadelphia doctors will scarcely be welcomed in any part of the United States if this epidemic demand for educated physicians extends much farther. As we cannot control the epidemic, had we not better take the quickest possible steps to elevate ourselves to the level of the profession of the prairie and the plain.

New York, or at least the Erie County Society of New York, has endeavored to have a legislative enactment passed, providing for a State Board of Medical Examiners. Soon our graduates may be debarred from practice in New York also. The time has evidently come for conservative Pennsylvania to fall into line and act.

The Medical Society of the State of Pennsylvania has for many years been passing resolutions bearing on this question; but to resolve is not to act. I myself was one of those appointed by the State Society to prepare a schedule for preliminary examination of intending office students. The schedule was adopted

[1] Medical Education and the Regulation of the Practice of Medicine in the United States and Canada. Issued by the Illinois State Board of Health, 1883, p. 4.

[2] Medical News, September 20, 1884, p. 326.

[3] Medical News, June 7, 1884, p. 682; Journal American Medical Association, September 13, 1884, p. 306.

by the Society, and the law became operative in some of the counties, but in Philadelphia it has been entirely unheeded up the present time.

The correct remedy for defective education and examination in this State is, as Dr. Leffmann has said, the establishment of a non-teaching board, who shall examine all those proposing to practice in this Commonwealth. Let the colleges teach and grant degrees if they choose, but let no man practice in Pennsylvania who shall not have been examined by the State Board.

Dr. Benjamin Lee: It is sometimes charged, Mr. President, that bachelor uncles and maiden aunts know, or think they know, more about the education of children than their married brothers and sisters. In relation to the subject under discussion, I confess that I occupy the position of the bachelor uncle. I am not a practical educator; having been compelled, however, to give this question a great deal of serious consideration, my outside stand-point may, perhaps, have had its advantages. But in what little I have to contribute I shall not hesitate to avail myself of the published testimony of those who have had a practical experience in the education of medical and scientific students. A man recently apologized to me, on a street car, for the hilarious conduct of a companion by saying that he had just completed his six years' apprenticeship at the trade of blacksmithing. It made me blush for my profession. I said to myself, it takes but two years to teach a man to perform the manifold and arduous duties of a physician, yet, in the judgment of practical men, six years are required to learn to shoe a horse. It has been truly said by one of the speakers this evening that the medical profession does not now possess the high standing in the eyes of the community of former years. This is evidently owing to the fact that its literary status has deteriorated. But three colleges now demand the requirements held one hundred years ago in this city and country in order to enter upon the study of medicine.

In support of this assertion, allow me to quote for a moment from an introductory address of our distinguished fellow-member, Professor Pepper: —

"The first medical school was founded in 1767, though it is stated by Dr. J. B. Beck[1] that the State of New York is 'entitled to the honor of adopting the first effectual measures for regulating the practice of medicine.' This was in 1760, 'when the General Assembly of the Province ordered that no person shall practice as physician or surgeon in the City of New York before he shall have been examined in physic and surgery, and approved by one of His Majesty's Council, the judges of the Supreme Court, the mayor of the city, or by any three or more of them, taking to their assistance for such examination such proper person or persons as they in their discretion shall think fit.' A fine was attached to infraction of this law. In 1772 a similar law was passed in New Jersey. Those eminent men who formed the University of Pennsylvania boasted — and it was no idle boast — that their scheme of medical education was to have as extensive and liberal a plan as in the most respectable European seminaries, and that the utmost provision was made for rendering a degree a real mark of honor, the reward only of distinguished learning and abilities. This plan was, 'that all such students as have not taken a degree in any college shall, before admission to a degree in physic, satisfy the trustees and professors of the college concerning their knowledge of the Latin tongue, and in such branches of mathematics and natural and experimental philosophy as shall be judged requisite for a medical education.'"

[1] Address before the State Medical Society of New York.

From this it will be seen that not only at that early day was the preliminary examination, which has been so properly insisted on by the lecturer of the evening, demanded, but that it was an examination of an advanced character, including the Latin language, and that high dignitaries of the city were required to be present, and take part in it.

With the multiplication of medical schools, however, the conditions of entrance began to be debased, and the process of deterioration steadily continued until within a very few years, in spite of the earnest and repeated protests of many, both individuals and societies, who had the welfare of the profession at heart. And, in this connection, I confess, Mr. President, that I cannot sympathize with the lecturer in his criticism of the action of the Medical Society of this State in passing "empty" resolutions from year to year, urging a reform in this matter. The American Medical Association, from the first year of its inception, has made this one of the leading subjects of discussion. No State Medical Society has more persistently and vigorously seconded it than that of Pennsylvania. And so far from its efforts having been fruitless, I believe that it is just the agitation, agitation, agitation, of the question, which it has kept up from year to year, which has made such a paper as we have listened to, and such a discussion as we are now participating in, possible this evening. Another result of constant presentation of the subject has been the formation of a society in this county, having for its principal object the elevation of the literary and social status of our profession, by the introduction of a higher standard of education — a society already very respectable in numbers, as it has always been in character. I say, then, all honor to the men who have thus persistently, in the face of discouragement, and often of opposition from the leaders of the profession, year after year, devoted their energies to calling the attention of the profession, of the public, and especially of educators, to this crying evil. Allow me now, very briefly, to quote the opinions of some practical educators on the subjects introduced to our notice. And, first, in reference to the preliminary education: our late venerated fellow-member, Prof. S. D. Gross, than whom no one was better qualified to give an opinion on the subject of education, wrote in 1867: "A sound preliminary education cannot be too strongly insisted upon or too highly prized. It is a boon of inestimable value." Professor Gross enumerates in the preliminary studies English, Latin, Greek, logic, mathematics, history, and geography, such an education as every well-trained scholar should possess, and commends a knowledge of French and German.

Professor Gross took a very gloomy view of the situation.

Dr. Yarnall says: "My distinguished and honored master, Professor Gross, declares: 'The future holds out no promise of amendment. We shall go from bad to worse until the people can stand it no longer, and then we may hope to be able to effect some reform.'"

I cannot share in this pessimistic view. I believe that the reform has already commenced and feel confident that it will go on with increasing impetus.

In regard to the study of Latin: it does not seem to

me that its true value as a factor in education has yet been sufficiently emphasized by previous speakers. It is not for the immense aid which it gives in the ready understanding of technical medical language and nomenclature that it is chiefly useful, but as a mental training, in developing habits of strict thought and application, in teaching the student how to study, how to arrange and utilize the great mass of facts which the strictly technical education will later furnish him, how to sift the numberless theories which will confront him, in short, how to use his mind. This view is amply confirmed by the results of an experiment made upon a grand scale in Germany and lasting over a period of ten years. From 1870 to 1880 students were admitted to the University of Berlin as well from the Real-Schule or scientific schools as from the Gymnasia or classic schools (colleges). The following are the opinions of several of the professors as to the comparative capacities for study and acquirement of those who had enjoyed the advantages of a classical education, and those who had been deprived of them, but had, instead, been trained in certain branches of modern education supposed to be an equivalent: —

The professor of chemistry says, "That students from the scientific schools cannot, in this branch of study, be placed upon the same plane with the students of the gymnasia."

Professor Hoffman observes, "That the matriculates from the non-classical schools often show, at the beginning of their chemical studies in the University, a more rapid progress in acquiring a knowledge of the elementary principles of the science, as well as a greater dexterity in the early practice of chemical manipulation; but that before their studies have advanced very far these relations are reversed, and the non-classical students are left behind."

Professor Rammelsberg gives similar testimony in regard to students in the school of technology. He remarks, "That of those who take his lectures on chemistry during the first semester, the students trained in the gymnasia, though without any previous knowledge of the subject, take a far greater interest in the instruction than that shown by the students from the non-classical schools. At the final examinations the work of the non-classical students is generally inferior to what in advance would be expected, while the work of the classical students is almost invariably better."

Zupitza, the professor of English, says, "That the attainment of the non-classical student is greatly inferior; and what is of still greater importance, they almost invariably show a want of keenness of apprehension and independence of judgment that prevents them from taking any other than a prescribed method." He also testifies, "That, as a member of the Examining Committee of the Government, he has noticed that, although the students prepared in the scientific schools begin their studies of English before they go to the University, their knowledge of the language at the completion of their University course is generally much inferior to the knowledge shown by the classical students."

Herr Mühlenhoff, one of the professors of the German language and literature, uses these expressive words: "According to my experience, it is hopelessly impossible for a student prepared in a scientific school to acquire what may be called a thoroughly satisfactory development. No one ever acquires it through the study of the modern languages; no one ever will, without the solid foundation of a training in a gymnasium."

I submit, sir, that such testimony from those so well qualified to judge, and based upon so extended an experiment, is entitled to profound respect. This verdict was, I may add, concurred in by the scientific as well the classical professors.

DR. JOHN J. REESE: It is late in the day to find it necessary to advocate medical jurisprudence as an integral part of a medical man's education; yet of the ninety colleges in this country but few make it a necessity. Among the majority of these it is an appendage to various chairs, and, in point of fact, is not taught at all. In neither of the two schools here is it held to be a necessary part of education.

DR. JAMES TYSON: Much of the discussion, as well as action, in the matter of higher medical education during the next ten years, will circle about the subject of the admission examination. In my own experience the best and most successful students, who make the most successful physicians, are those who have had the broadest preliminary education. Such an education should include the ancient and modern languages and the natural sciences, as well as physics, and all the branches of a thorough English education. But since it is impossible, at the present day, to insist upon such requirements, we should agree upon a reasonable and practicable preliminary education, which the colleges, through professional opinion, should be required to adopt. It is not to be expected that the average college professor who has reached middle life will initiate a change which at first may effect a reduction in his income.

I hope the influence of the Society will be exerted to change the existing registration law, which requires the medical colleges of the State to indorse, after examination, the diplomas of the extra State graduates desiring to practice in Pennsylvania. This duty should be placed in the hands of a Board of Examiners, independent of the colleges; Indeed, I see no reason why the graduates of our own colleges should be exempt from examination by such a Board. All should be put upon a common plane.

DR. ULRICH, of Chester: Dr. Leffmann objects to the demands made by the State Society; as I happen to be a member of the committee to arrange the subjects for this preliminary examination, it seems proper that I should make some explanation as to the views of that committee. In doing so, I would say that I represented the minimum demand, and Dr. Finley, of Altoona, the maximum. We were in existence for at least two years, making at each meeting a majority and a minority report. Dr. Finley, whose demands were very high, making the minority report. I think the differences in our views were entirely due to the differences in our early educations. I did not think then, nor do I think now, that worthy students should be shut out, though I desire to advance the interest of the profession as much as possible.

At the time this report or programme was under discussion, the late Professor Gross suggested that it would have kept him out if it had then been enforced. No such man could have been shut out; he would have turned back and mastered the requirements. I often, very often, have regretted that my own preceptor had not advised me to a preparatory course; it would have saved me so much labor.

I take issue on the views in favor of specialists, pre-

sented by this lecture, and would object to any special teaching during the general or college course. I have always held that specialists should be well grounded in general medical knowledge, and it would lower my opinion of them to think otherwise. I hold that all specialists should be most thorough physicians. What signifies the ability of a man to diagnosticate an abnormal condition of the eye, ear, uterus, or skin, if he cannot estimate the constitutional relation to either? Mere local treatment is not all that is required in such troubles. There is no question in my mind but that those schools which have adopted the graded course will, in the very near future, command the best pupilage, and the greatest respect for their diplomas.

Dr. Jackson, of West Chester: While I would not be understood as holding that study of the classics was valueless, as a means of mental training, I certainly think that for such purpose it has been relatively too highly valued. Though the experiment of the last decade in Germany was held by the Faculty of the University of Berlin to show that such study best prepared the mind, even for the study of science, it must be remembered that this Faculty undertook the experiment with a strongly expressed prejudice in that direction, and that an opposite conclusion was reached by the Faculties of most other German Universities watching the same experiment. Then, too, the Gymnasia doubtless attracted the better class of students, because their diploma had, for generations, been necessary for admission to the Universities.

It is said that the requirements for the medical degree are not now as high as they have been in the past. This naturally results from the "downward competition" of the schools. A State Board of Examiners, by showing which schools do good work, would establish competition upward, and so raise the standard of medical education.

Dr. Keyser: From the remarks of Dr. Jackson, there would possibly be a misconception in the minds of those present as to the position of the German Real-Schule in the teaching of the classics. Greek, it is true, is not in the curriculum, but Latin is carefully and as thoroughly taught as in a Gymnasium. We have heard much, this evening, in relation to the necessity of a preliminary education before matriculation in a medical school; but another question is, "How are we to change the ever-continual quantity into the more proper quality of graduates of the medical schools.

We should so agitate this question as to cause students to go to the best and highest educational institutions; colleges which admit none but those well fitted by education and proper mental training as their matriculants, and where the teaching is in graded courses, and not the constant repeating of lectures year after year. It is also necessary to look to the final examinations for the medical degree. Let it be stringent, open to public, and in full faculty, instead of the accustomed way of going alone and quietly to the professor's office. No slipping quietly into the profession, as I have several times been informed by some of the graduates of our schools. To raise the standard as it should be we must have the preliminary requirements for matriculation and final examinations for the degree — both high, open and above board at all times.

Dr. Henry Leffmann: In reference to the attitude of the Medical Society of Pennsylvania, my objection is that it has been too tender in dealing with the matter. If it wishes to enforce the schedule of preliminary examination, let it resolve, that after a definite time — say, five years — no person shall be received as a member who is graduate of a college not respecting that schedule or its equivalent.

Recent Literature.

On the Use and Abuse of Pessaries. By George Granville Bantock, M. D., F. R. C. S., Edin. Second Edition. Entirely Rewritten. London. 1884.

This book is an amplification of a paper which first appeared in the *Lancet*, and afterwards was published in pamphlet form. It gives the author's views on the subject of pessaries together with a résumé of the opinions held by the principal gynæcologists. To illustrate the different points discussed in the book illustrative cases are added from the writer's experience.

On the whole the book strikes us as a very fair and intelligent exposition of this much-vexed subject. His position might be thus briefly stated: That a majority of the displacements of the uterus, uncomplicated by adhesions, may, after replacement, be kept in position by a pessary properly fitted to the individual case; that such replacement and adjustment of a pessary will definitely relieve very many symptoms, and that in a large proportion of cases a permanent cure is effected, and the pessary may be dispensed with.

For the author's special views on the relative frequency of the different displacements, on the way in which pessaries act, on the value of the stem pessary, and on a good many other kindred subjects, we would refer to the book itself, which will well pay perusal. The author is a man of large experience, and his cases illustrate the conscientious care which has doubtless contributed so largely to his success in this special line of treatment. His book can be recommended to the profession as a very safe guide.

Manual of Physiology, a Text-Book for Students of Medicine. By Gerald F. Yeo, M. D., F. R. C. S., Professor of Physiology in King's College, London, etc. Philadelphia: P. Blakiston, Son & Co. 1884. Pages xxiv., 749.

The modern publisher does not believe with the ancient Preacher that "much study [reading] is a weariness of flesh," and so Dr. Yeo has been persuaded, he informs us in his preface, to prepare this volume. He has no new tale to tell, no new point of view to develop, no "epoch making" presentation of any portion of the subject to give us; his only object has been to prepare a book which the first year's student shall find profitable reading. Once admitting the necessity of such a book it must be acknowledged that Dr. Yeo has excellently carried out his plan. The plan itself is such as to render any detailed criticism of the book unnecessary; in fact the most serious objection to be made to the book is that its goodness and size, with the expense and apparent completeness which that involves, will hinder many students from buying larger and better books after they shall have read this. It is but fair to say here, what we have had occasion to say before, that the kind of medical student Dr. Yeo seems to write for has great need to learn practical logic somewhere, and it will be much better if he do so in his physiology rather than to wait for the more laborious and dangerous experiences of his private practice.

This is one reason why all *large* books on physiology which profess to be but elementary are objectionable. This said, we have nothing but commendation for what Dr. Yeo has done in carrying out his plan. He has avoided theory with success — sometimes perhaps too completely. The book is liberally illustrated, many plates having been taken from the other sources, but are most commendably repeated as required. The plates in the American reproduction are not all of them very successfully printed. The text is much better printed, the only error which has attracted our attention is "*nitrate* of amyl" (p. 403). The index and the glossary are pretty full; the latter would be more acceptable to many students if it were liberally accented.

Medical and Surgical Journal.

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HYDROCHLORATE OF COCAINE AS A LOCAL ANÆSTHETIC.

AT the Ophthalmological Congress held in Heidelberg in September last Dr. Koller demonstrated the properties of cocaine, the alkaloid of coca, in temporarily abolishing the sensibility of the eye. Naturally the demonstration excited great interest, and the study of the alkaloid has been pushed with vigor. As yet the enthusiasm among ophthalmologists over the new anæsthetic has received no check, and seems rather on the increase, as proofs accumulate of its successful action. If the place which it promises to fill in ophthalmic therapeutics becomes assured, the introduction of the drug will mark an era in the surgery of this branch hardly less important than that ushered in by the discovery of anæsthesia by ether.

The drawbacks to the use of general anæsthesia are peculiarly prominent in operations on the eye, and in this of all surgical branches a reliable local anæsthetic possessing no injurious qualities is a desideratum. Up to this time no drawbacks to the use of cocaine have been reported, and it has been used in a variety of operations with results so uniform as to justify the statement that it is an unqualified success, producing local anæsthesia so complete that no form of contact is perceived, the mind and muscular power being left unimpaired. When we remember that in all cases reported up to the time of writing this result has been attained without unpleasant or detrimental after-effect, and with no element of danger, we can fully appreciate the enthusiasm of those members of the profession who have occasion to make use of this valuable discovery.

But there is no reason to suppose that the field of usefulness of cocaine as an anæsthetic will be limited to ophthalmology. Already for some time in use in laryngology, it has been of late tested to a certain degree on the nasal, buccal, urethral, and rectal mucous membranes, as well as in the ear, with results pointing towards its use in almost unlimited directions. It would seem to merit a thorough trial at the hands of the dental profession, for example, in the way of application during excavation, for there is every reason to believe that success may be attained in this direction, especially with exposed nerves.

The American profession has reason to congratulate itself on the alacrity with which the discovery has been assimilated and put on a practical basis in this country.

One needs but a short experience in medicine to learn to receive the first accounts of a new remedy or of a new application of an old one with some hesitation. A thing powerful for good is quite sure to have some limitation to its use, and with powerful remedial agents we are obliged to learn to secure the therapeutic and avoid the toxic effects. What drawbacks to the use of cocaine the future will develop cannot be foreseen; that none should be found is too much to expect.

ONE FEATURE OF THE RHINELANDER CASE.

AN important decision has just been rendered in New York in regard to the matter of insanity under the present Penal Code, by Recorder Smyth, in the case of William C. Rhinelander, who shot the lawyer, John Drake, last summer. A commission of three, including one physician, Dr. Detmold, recently decided by a majority vote that the prisoner was insane; but in this decision one of the commissioners did not concur. The District Attorney claimed that the determination of the Commissioners was conclusive, and that the only duty of the court was to grant an order committing him to the State Lunatic Asylum; but the Recorder, after a careful review of the case, now decides that Rhinelander is sane and must stand trial for the shooting. In his opinion, founded on a study of the statutes relating to commissions of lunacy in the cases of criminals, and the construing together of sections 658 and 659 of the Code of Criminal Procedure in the light of the common law (as they are apparently contradictory in terms), he declares that the determination of a commission is not final, and that the court has full power to review it and the proceedings on which it is based, and to adopt or reject it, as the evidence and the law may require.

In the course of his opinion Recorder Smyth thus expresses himself in regard to the expert medical testimony submitted in the case: —

"I agree with the learned commissioner (the dissenting one) that the expert evidence is of no value in this investigation. While the physicians called by the people to sustain the allegation of insanity say that the defendant is insane, they differ radically among themselves as to the classification of that al-

leged insanity. Two say that he has general paresis, one says that he is an imbecile, and another that he suffers from melancholia. . . . But whatever may be the views of the learned experts I have searched in vain through all their evidence to find any convincing proof of any one act of the defendant during the period embraced in the examination which itself proved insanity. Particular instances of foolish and impetuous acts, committed at long intervals, some of which being such as any self-willed or impulsive person might under certain circumstances do, cannot prove actual unsoundness of mind, and a general judgment passed to-day upon the quality of an isolated act, committed years ago, is of but little value in determining a question of present sanity."

We draw attention to this decision not only for its bearings upon the medico-legal questions of insanity, but also because it has so marked a bearing on the character of expert witnesses. Testimony subject to such a revision must be in reality worthy of respect to receive any consideration. Incompetent witnesses will hardly be in favor or care to appear. It seems to bid fair to help establish the distinction between expert and pseudo-expert witnesses.

PREVENTIVE MEDICINE FOR THE AUTUMN.

THE transition seasons of our American climate, corresponding in a general way with the periods of the year which the world has agreed to call spring and autumn, but more exactly with the early months of April and May, and the later ones of September and October, are characterized by sudden and violent oscillations of temperature. A change of twenty or thirty, and even more degrees, of Fahrenheit in the twenty-four or forty-eight hours is by no means phenomenal. These months bring with them a certain malaise exhibiting itself in general lassitude, and a certain class of maladies marked by local congestions — such as sore throats, nasal, bronchial, and intestinal catarrhs — which are familiar and expected, if not welcome visitors.

The extreme changes of temperature are, of course, peculiarly dangerous to the very old and the very young, that is, to those whose vitality and power of adaptability and resistance are especially limited. But in so far as the active and vigorous are less careful or less cared for than this former class, they, too, are liable to the penalties exacted by exposure to these climatic freaks.

To a certain extent an unremitting attention to the daily bulletins of the weather-bureau and a constant eye upon the barometer and thermometer give us an advantage over a preceding generation. But the leisure and ability to observe and profit by these warnings are not given to all, and even of those who are fortunate enough to possess a varied wardrobe and to live in a well ordered house, many prefer to run the risks of a chill or a sweat to numberless changes of outer and inner clothing and almost hourly directions about house heating and ventilation.

It must be confessed that practically American flesh must still consider itself, notwithstanding modern improvements, inevitably heir to a certain number of these afflictions. There are, however, a fair proportion which, without undue self-solicitude, may be escaped, and we desire to call attention, in the interest of preventive medicine, to one fertile source of headaches, sore throats, and diarrhœas peculiar to the months of September and October, which a very moderate degree of forethought might easily eliminate altogether. We refer to the reoccupation, without proper preparation, in the autumn, of houses and apartments which have been shut and vacant during the summer.

The custom of leaving the cities for the country or sea-shore during a certain number of summer weeks or months is becoming every year more general among a larger class of our city populations, and not only that but every year the length of the period of absence is increasing. Now the return to town from the country, the exchange of the open air for the house, of the fields, or the beach, or the piazza for the pavements and the streets, of an active life for a sedentary one is of itself a sufficient shock to the sensibilities of any one's system, however accommodating. But when, in addition to this inevitable shock, the individual or family neglects to secure such mitigations of the conditions as are easily within every one's reach, a cry of distress from the overtaxed constitution is, it must be allowed, indeed justifiable.

It is too common to return to a town house which has been closed and uninhabited without taking the simple precautions of thoroughly ventilating the rooms and passages, and flushing the drains. This ought always to be done, and physicians should remind clients who are too careless to think of these things for themselves.

November would be a less solemn month than it now is were these simple precautions taken in September and October, and many a case of febricula, or typhoid fever even, for which the country is now held responsible, would be averted altogether.

MEDICAL NOTES.

— We learn with regret that Professor Huxley has become so worn by his multitudinous labors that he has been ordered by his medical attendant to leave England for some months of perfect quiet and freedom from work.

— The prescription ℞ Aerismaris, which was formerly supposed to necessitate a pilgrimage to the shore, can, it seems, be filled by any inland apothecary. Dr. B. W. Richardson, who nearly a score of years ago called attention to the possibility of getting a sea atmosphere without going near the ocean, has recently revived his suggestion in the *Asclepiad*. The pharmacy of the prescription is as follows: The solution to be used and diffused as spray consists of peroxide of hydrogen (ten volumes strength), containing one per cent. of ozonic ether, iodine to satura-

tion, and 2.50 per cent. of sea-salt. The solution, placed in a steam or hand-spray diffuser, can be distributed in the finest spray in the sick room at the rate of two fluid ounces in a quarter of an hour. It communicates a pleasant sea odor, and is the best purifier of the air. It is also a powerful disinfectant. A large spray-producer has been recently invented which will diffuse the artificial sea air through a hospital ward.

— The proposition has been made in the general medical council of Great Britain to raise the limit of age at which legal qualification to practice medicine shall be obtainable. A definite motion to fix the age at twenty-three years was, however, rejected.

— Broad streets are not, it seems, the unmixed blessing that might be *a priori* supposed. For instance, in the State of Illinois the excessive width of the streets is reported as having of itself become a source of nuisance and of danger to health. Sixty feet and more are ordinarily given to new streets even in the smaller towns. Eight feet on either side are paved and devoted to pedestrians, and the remaining space, varying usually from forty-four to fifty-four feet, is devoted to carriage traffic. The result is that this wide carriage road, so often in excess of the requirements of the vehicles that have to travel over it, becomes a source of such expense as to forbid its being properly paved, cleansed, and channeled. The street consequently is soon turned into a vast surface of dirt mixed with filth, horse droppings, and other refuse, and when the weather is so dry that dust is formed the air which is inhaled as the dust flies about is calculated to cause disease as well as discomfort instead of promoting the health of pedestrians. Dr. Gregory in bringing forward this subject fully concurs in the great importance of providing wide thoroughfares, and of keeping the number of inhabitants to each acre down to a proper maximum, and hence he declares that he would not on any consideration diminish by a single foot the width of the streets, but he would curtail the actual roadway so that it shall only suffice for the proper demands of the carriage traffic, and between that limited space, which could then be properly kept at a reasonable cost, and the foot-paths he would plant trees and lay down grass, so as really to provide in towns and cities such freshness and greenness as would go far to induce people to take that form of exercise which is most conducive to health.

— A case was reported to the *Société des Sciences Médicales de Lyon* (*Lyon Medical*, 5th October), in which *lavage* was applied to the removal of a foreign body from the stomach. A pin had been swallowed by a dressmaker, and emetics, cathartics, etc., freely used for a week, had failed to dislodge it. The point could be felt by the patient giving a pricking feeling at the epigastrium, and it was believed by the physician that the pin had become caught in a fold of the mucous membrane. He accordingly washed out the stomach by means of a large tube (fifteen millimetres external diameter), using fifteen litres of water. The washing did not bring away the pin, though after it the patient felt relieved of the pricking sensation, and soon after vomited it. It was twenty-five millimetres long. It was believed by the operator that the washing dislodged the pin from its resting place and enabled it to be ejected by the act of vomiting.

— An interesting case having an important bearing on the question of the marriage of syphilitic subjects is reported by Mr. Cooper Forster, in the *Lancet*, August, 1884: A man, aged thirty, had a hard chancre in 1862; he was treated for four months with mercury and iodide of potassium, and from 1863 until the spring of 1882 he had no symptoms of syphilis. In 1865 he married a strong, healthy girl, who aborted four months afterwards, after having had sores on the vulva, sore throat, and a copper scaly rash. In May, 1866, a seven months' child was born, with marked symptoms of syphilis; this died in ten weeks. In May, 1868, the wife was again pregnant, when she was suddenly seized with difficulty of breathing, and died before medical aid was obtained. In 1872 the patient married again, his second wife miscarried at the sixth month, but did not again become pregnant for some years. In 1876 the patient and his wife were put under a course of mercury and iodide of potassium for over two months. In 1878 a healthy eight months' child was born, and in March, 1880, a healthy child was born at full time. In January, 1881, the husband had a fall, the effects of which he felt for a time, and then they passed off. In the spring he showed signs of locomotor ataxy, and in the autumn of 1882 he died, in spite of treatment with mercury and iodide of potassium.

— An unusual case of congenital hypertrophy of one foot is recorded by Dr. Blakader, of Montreal, in the *Archives of Pediatrics* (October 15th) with figure. The relative size of the two feet may be seen from the following table: —

	Normal foot. January.	Hypertrophied foot. January.
Length (inches)	4	5¼
Circumference around ball of foot	4¼	7½
Circumference around heel and ankle	6	6⅝
Circumference around calf	7	7¼
Circumference around thigh	9	9¾

As the hypertrophy was increasing an operation was resorted to, and the second and third toes, with the anterior two thirds of the metatarsal bones, were removed. The tumor proved to be a diffuse lipoma, with hypertrophy of cartilages and tendons.

NEW YORK.

— The members of a medical commission which has recently visited the cow stables at Blissville, Long Island, where pleuro-pneumonia has prevailed at intervals for quite a long time, are of the opinion that the only way to effectually suppress the disease is to burn the old buildings now used for stables.

— At the recent annual meeting of the Society of St. Luke's Hospital the report of the Board of Managers showed that during the year ending Saturday, October 18th, there were treated in the institution 1497 patients, of whom 129 died, and 601 were discharged cured. Of the whole number 1190 were charity patients. The average daily number of patients was 155,

and the total number of days of hospital care was 56,691 — an average of more than thirty-seven days to each patient — of which 47,090 days were gratuitous. The average daily cost of treatment per capita was 1.21\frac{1}{10}$. During the year legacies amounting to $32,560, and donations for the endowment of free beds to the amount of over $13,000, were received. In addition, Mrs. James Morris endowed the hospital with a special fund, the income of which is to be used in providing vocal and instrumental music for the chapel and wards. The total income from endowments was $28,645.53, which, added to the sum received from paying patients, amounted to about half the sum required for the support of the institution.

— The Montefiore Home for Chronic Invalids, at the corner of Eighty-fourth Street and the Eastern Boulevard, was formally opened on the 26th of October. Sir Moses Montefiore was the first contributor to the institution, and the Jewish residents of New York furnished the remainder of the fund for its support.

— At the annual meeting of the County Medical Society (New Code), held October 27th, Dr. Daniel Lewis was elected President; Dr. Lawrence Johnson, Vice-President; Dr. W. M. Carpenter, Secretary, and Dr. O. B. Douglas, Treasurer. Two *homœopaths* who had applied for membership in the Society were *unanimously* elected.

— At the competitive examination for the positions of first and third assistant physicians at the State Hospital for the Insane at Poughkeepsie, held October 22d at the building of the New York Academy of Medicine, thirteen candidates presented themselves. The Examining Board consisted of Mr. Silas W. Burt, Chairman of the Civil Service Commission, Dr. Stephen Smith, State Commissioner in Lunacy, Prof. Henry Drisler, of Columbia College, and Drs. James R. Leaming, E. Darwin Hudson, J. A. McLean Hamilton, Theodore H. Kellogg, A. N. Bell, and A. E. MacDonald. On the day following the candidates were tested in regard to their practical knowledge of insanity in the wards of the City Insane Asylum on Ward's Island, by Dr. MacDonald, the Superintendent. The names of the successful competitors have not yet been announced.

— At the Academy of Medicine, on the 22d ult., non-competitive examinations for Superintendent of the Asylum for Idiots at Syracuse, at a yearly salary of $3,000, and for the position of assistant physician at the Willard Insane Asylum, at a salary of $1800, were also held.

— The wife of a citizen of Waterford, New York, has presented her husband with four children at a birth. They are all girls, and are said to have weighed seven pounds apiece when born.

— The Board of Health asks an appropriation of $437,408 for its expenses during the year 1885; but the Board of Estimate and Apportionment has reduced this amount by $17,126.

— Dr. James Faulkner, who died at Dansville, Livingston County, on the 19th of October, would have been ninety-five years old had he lived to January 21, 1885. He was born at Cambridgetown, Washington County, and served through the war of 1812 as a surgeon in General McClure's command. After the war he gave up the practice of medicine and engaged in business. He also entered public life, holding many positions of trust and honor, and at the time of his death was the oldest bank president in the United States.

— Dr. Allen S. Church, a well-known and highly respected New York physician, and Treasurer of the County Medical Association, died October 24th.

Correspondence.

"WEIGHT AS AN INDICATION OF THE CHARACTER OF RISKS FOR LIFE INSURANCE."

Augusta, Me., *October* 25, 1884.

Mr. Editor, — The article in this week's Journal on "Weight as an Indication of the Character of Risks for Life Insurance" is interesting and suggestive, and its conclusions may be and probably are correct, but it seems to me to furnish an additional example, where we had enough already, of the fallacy of statistics and of reasoning from insufficient premises. If the conclusions are correct they are so independently of the data furnished in the paper. In order to acquire any value they must be supplemented by tables showing the number of members of the Society who are *at*, *below*, and *above* the normal weight, and what proportion of these vary fifteen per cent., twenty per cent., etc., from the standard. As the paper now stands it does not show that the death-rate is any higher among those whose weight varies from the standard than among those of standard weight.

As medical examiner of three of the largest life companies and a large beneficiary organization I am greatly interested in this subject, and wish that Dr. Seaverns, from the material at his command, would furnish us some statistics of real value.

Yours truly, J. O. Webster, M. D.

Roxbury, Mass., *October* 28, 1884.

Mr. Editor, — I cheerfully concede the imperfections of my article as referred to by Dr. Webster, for it was prepared in haste at a time when I was much fatigued.

It would, no doubt, be interesting and valuable to collect, as he suggests, tables of the members of our Society who are at, below, and above the normal standard of weight, but on the 1st of March last there were 48,912 of such members, and life is short.

I do not claim that my statistics *prove* anything *conclusively*, and it is very seldom that any statistics in medicine do more than establish a probability; and if (as I think my data show) among the 900 or more deaths it appears that a large proportion of those light in weight die of consumption and other wasting diseases, and if among the heavy weights many of them die of diseases of the circulatory system, there is, *probably*, a special tendency of the one class to the one form of disease, and of the other class to the other form of disease. And since phthisis is confessedly one of the most fatal diseases encountered in life insurance, I think I am justified in inferring that the examiner should be especially on his guard against those whose

light weights show that they have a special proclivity thereto.

I am obliged to Dr. Webster for his courteous criticism.

Yours very truly,

JOEL SEAVERNS.

Miscellany.

LOCAL TEMPERATURE IN BILIARY COLIC.

DR. JULES CYR calls attention to the diagnostic value of local thermometry during the attack, in a monograph that has recently appeared (*Traité sur l'Affection calculeuse*, Paris, 1884).[1] If, during the paroxysm, the thermometer be applied to the area of greatest pain there is observed a local rise of a quarter, half, or even one degree centigrade above the normal temperature of the region. This local rise may, indeed, reach the level of the axillary temperature, which, under normal circumstances, is a degree and a half higher than that of the epigastrium or the right hypochondrium. This fact was first brought to the notice of the profession by Professor Peter, at La Charité, in whose service the author had, in March, 1883, the opportunity of observing an interesting case, of which the following particulars are stated: A young woman, confined for two or three years to bed by disease of the spine, was seized during her sojourn in the hospital, and at the end of the second year of decubitus, with a paroxysm of biliary colic, which was speedily followed by others of a like kind, one of which was attended by jaundice. The trace which displayed the axillary temperature, that of the left hypochondrium, and that of the right hypochondrium, during a period of three months, demonstrated (1) a constant parallelism between the elevation of the axillary temperature and the elevation of that of the right hypochondrium; (2) in the periods in which the attacks of biliary colic were absent the tendency to a uniform temperature in the two hypochondriac regions, sometimes without appreciable difference, sometimes with a variation of a quarter or a half degree C.; (3) during the paroxysms the temperature of the right hypochondrium was higher than that of the left to the extent of 1° C. to 1.3° C. It sometimes attained, and on one occasion even exceeded, that of the axilla. In a second case, where the focus of pain was in the epigastrium, the temperature at this point, which had been 36.1° C., rose to 37.8° C. and 37.9° C., while the axillary temperature varied between 36.6° C. and 37.5° C. In a third case, characterized by violent and frequent almost quotidian paroxysms, the temperature of the right hypochondrium almost always exceeded that of the axilla of the same side. This element of symptomatology, heretofore overlooked, M. Cyr has, on several occasions, studied, with the result of fully confirming the observations of Professor Peter. He has, further, found the difficulties attending the application of the surface thermometer, under the circumstances, less serious than he was at first led to expect that they would prove. Pain constitutes the essential element of the paroxysm of biliary colic. Other phenomena accompanying it are accessory, and may all be absent in particular cases, for their presence is dependent upon circumstances not at all necessary to the paroxysm. To this general statement, however, it appears that an exception may now be made in favor of the local elevation of temperature. This, in the absence of any cause beyond the paroxysm adequate to explain it, constitutes an important element of diagnosis, especially when we consider that in gastralgia and intercostal neuralgia — maladies in many respects closely resembling the attack of hepatic colic — local elevation of temperature does not occur.

[1] Philadelphia Medical Times, May 31, 1884.

STRICTURES.

WE find in a small volume entitled Medical Rhymes, recently compiled by Dr. Hugo Erichsen from various sources, the following stanzas, published originally in the *Western Lancet* in 1857. As they are probably unfamiliar to our readers we reproduce them. They purport to have been "left on a doctor's table by a patient who was about to start for Niagara Falls, where the water runs down hill with nothing on earth to hinder it."

"When sorrow's cloud is cast athwart
The sunshine of my mind,
When I with gloomy care distraught
No recreation find;
When sighing o'er my hapless lot
And what I used to be,
I 'll seek some quiet, tranquil spot,
And pass a small bougie.

"Let strictures on my conduct pass,
Unnoticed let them be;
A stricture somewhere else, alas!
Is more deplored by me.
In hope this blight on manhood's bloom
I yet effaced may see,
I 'll hie me to my quiet room,
And pass a small bougie."

AN UNUSUALLY PROTRACTED CASE OF DIPHTHERIA.

THE *Archives of Pediatrics* (October 15th) quotes from the *Revue Mensuelle des Maladies de l'Enfance* (July, 1884), a remarkable case, by Wins, in which diphtheria lasted seventy days.

"The author refers to the fact that Cadet de Gassicourt, Empis, Barthez, and Isambert have already recorded cases of diphtheria which lasted much longer than its usual duration, and adds in his paper a similar case which occurred under his observation. The case occurred in a child six years of age. A general eruption was present for nine days, at the end of which period there was pain in the throat, with elevation of the body temperature. Two days later a false membrane appeared upon the left tonsil, then the right one, and the pillars of the pharynx became involved, and the cervical glands enlarged. After twelve days the false membrane disappeared, but an abscess formed in the right cervical region. This was opened and soon healed. The urine contained a small quantity of albumen, but this disappeared with the disappearance of the false membrane from the pharynx. During the course of the angina a diphtheritic patch two centimetres in diameter appeared upon the left side of the lower lip. Three days later two new patches appeared upon the right side of the lip. These remained for a short time and were then replaced by others, the process continuing until the seventieth day from the beginning of the disease, when they disappeared entirely, without recurrence. These membranes upon the lip were thin, grayish in color, developed upon a red base without consequent ulceration, and were not attended with pain or

with difficulty of mastication. After the general disease had disappeared, these secondary phenomena appeared to be entirely local, being unattended by elevation of temperature, or by albuminous urine. The child did not recover his accustomed health and spirits, however, until the final disappearance of the patches upon the lip. The author agrees with Cadet de Gassicourt in his opinion that the danger in these protracted cases of diphtheria depends exclusively upon the location of the diphtheritic phenomena."

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 25, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	658	278	26.70	15.90	9.15	2.10	9.00
Philadelphia	927,995	308	119	16.96	14.72	1.92	3.20	9.60
Brooklyn	644,526	258	97	24.96	14.04	7.41	2.34	8.58
Chicago	632,100	187	92	29.15	9.01	7.42	2.65	12.19
Boston	423,800	197	76	29.07	15.30	8.16	4.59	12.24
Baltimore	408,520	159	58	18.90	14.25	5.04	1.89	9.45
St. Louis	400,000	152	59	31.68	9.90	16.56	5.28	7.92
Cincinnati	272,400	106	42	25.38	11.28	12.22	5.64	5.64
New Orleans	234,000	118	29	19.55	11.05	13.70	.85	5.20
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	96	34	24.96	11.44	4.16	9.36	1.04
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	53	17	30.08	18.86	11.28	7.52	1.88
New Haven	62,882	23	12	30.35	17.40	4.35	4.35	17.40
Nashville	54,400	16	3	56.25	12.50	25.00	6.25	18.75
Charleston	52,286	41	12	9.76	7.22	4 88	2.44	—
Lowell	71,447	16	5	12.50	12.50	—	6.25	—
Worcester	69,442	22	10	31.85	4.55	9.11	9.11	13.65
Fall River	62,674	30	18	43.33	3.33	20.00	13.33	6.66
Cambridge	60,995	17	5	5.88	23.55	—	—	—
Lawrence	45,516	17	8	88.20	5.88	—	—	70.56
Lynn	44,895	15	6	20.00	6.66	6.66	13.33	—
Springfield	38,090	11	4	27.27	9.09	18.18	—	9.09
Somerville	31,350	12	7	16.66	8.33	—	—	8.33
Holyoke	30,515	3	3	66.66	—	—	—	66.66
New Bedford	30,144	18	5	27.77	16.66	16.66	5.55	5.55
Salem	29,503	9	4	22.22	—	—	11.11	—
Chelsea	24,347	—	—	—	—	—	—	—
Taunton	22,693	7	0	14.84	28.56	—	—	42.84
Gloucester	21,400	6	1	16.66	16.66	—	—	—
Haverhill	20,905	10	2	10.00	10.00	—	10.00	—
Newton	19,421	5	0	—	20.00	—	—	—
Brockton	18,323	7	2	—	14.28	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	5	1	20.00	40 00	—	20.00	—
Fitchburg	13,433	—	—	—	—	—	—	—
Eighty-nine Massachusetts towns.	337,046	58	10	8.50	22.36	1.72	5.16	1.72

Deaths reported 2550 (no reports from Buffalo, Pittsburg, and Milwaukee): under five years of age, 1019; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 664, consumption 367, diphtheria and croup 223, diarrhœal diseases 201, lung diseases 197, typhoid fever 93, malarial fevers 60, scarlet fever 39, whooping-cough 24, cerebro-spinal meningitis nine, measles eight, erysipelas three, puerperal fever three, typhus fever one. From *malarial fevers*, New York 14, New Orleans 13, Brooklyn eight, St. Louis seven, District of Columbia nine, Philadelphia and Baltimore two each, Chicago, New Haven, Nashville, and Charleston one each. From *whooping-cough*, New York 12, Brooklyn six, Boston three, Baltimore, District of Columbia, and Somerville one each. From *cerebro-spinal meningitis*, New York six, Philadelphia, Charleston, and Fall River one each. From *measles*, New York four, Cincinnati two, Brooklyn and Gloucester one each. From *puerperal fever*, Chicago, Boston, and St. Louis one each. From *erysipelas*, Brooklyn, Chicago, and Boston one each. From *typhus fever*, Chicago one.

Cases reported in Boston: scarlatina 45, typhoid fever 44, diphtheria 24, and measles eight.

In 105 cities and towns of Massachusetts, with an estimated population of 1,332,401 (estimated population of the State 1,955,104), the total death-rate for the week was 17.70 against 17.62 and 17.84 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending October 18th, the death-rate was 21.1. Deaths reported 3545: infants under one year of age 946; acute diseases of the respiratory organs (London) 286, diarrhœal diseases 167, scarlet fever 74, fever 68, whooping-cough 56, measles 39, diphtheria 33, small-pox (London 10, Sunderland two, Birkenhead and Liverpool one each) 14. The death-rates ranged from 13.6 in Halifax to 30.2 in Bolton; Birmingham 17.0; Bradford 20.7; Leeds 23.9; Leicester 21.6; Liverpool 28.2; London 19.7; Manchester 23.6; Nottingham 23.9; Sheffield 24.3; Sunderland 23.3. In Edinburgh 18.2; Glasgow 23.1; Dublin 30.2.

For the week ending October 11th, in the Swiss cities, there were 20 deaths from consumption; diarrhœal diseases 14, lung diseases five, diphtheria and croup two, erysipelas two, puerperal fever two, small-pox one, scarlet fever one, typhoid fever one. The death-rates were, at Geneva 5.1; Zurich 3.9; Basle 15.5; Berne 15.5.

The meteorological record for the week ending October 25th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Oct., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 19	30.356	44	50	32	62	32	71	55	NW	SW	SW	8	11	16	F	F	O	—	—
Mon., 20	30.232	64	77	48	62	35	62	53	SW	SW	SW	15	17	13	C	C	C	—	—
Tues., 21	30.254	53	65	49	74	88	94	85	W	NE	W	7	12	4	C	C	F	—	—
Wed., 22	29.894	65	75	48	87	45	92	75	SW	SW	S	12	24	13	C	C	R	—	—
Thurs., 23	29.819	49	62	41	80	31	71	61	W	NW	W	13	14	17	O	F	C	—	—
Fri., 24	30.203	41	48	36	66	39	58	54	W	W	NE	14	10	4	C	C	C	—	—
Sat., 25	30.187	42	49	37	55	53	53	53	SW	W	NW	7	11	12	O	O	C	—	—
Mean, the Week.	30.135	51.0	60.7	48.3				62.3										9.05	0.63

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY FROM OCTOBER 25, 1884, TO OCTOBER 31, 1884.

ALDEN, CHARLES H., major and surgeon. Relieved from duty at Fort Yates, D. T., and ordered for duty at Fort Snelling, Minn. S. O. 125, Department of Dakota, October 20, 1884.

ALDEN, C. H., major and surgeon. In addition to his duties at Fort Snelling, Minn., to perform the duty of attending surgeon at department headquarters. S. O. 127, headquarters Department of Dakota, October 23, 1884.

WILSON, W. J., captain and assistant surgeon. Assigned to temporary duty at Fort Trumbull, Conn. S. O. 220, Department of the East, October 27, 1884.

CORBUSIER, W. H., captain and assistant surgeon. Assigned to duty at Fort Bowie, A. T., S. O. 99, Department of Arizona, October 22, 1884.

LAGARDE, L. A., captain and assistant surgeon. Assigned to duty at Fort Ellis, M. T., relieving First Lieutenant G. E. Bushnell, assistant surgeon U. S. A., who, upon being relieved, will report for duty at Fort Snelling, Minn. S. O. 126, Department of Dakota, October 22, 1884.

EVERTS, EDWARD, first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 107, headquarters Division of the Pacific, October 21, 1884.

MCCAW, WALTER D., first lieutenant and assistant surgeon. Ordered from Fort Craig, N. M., to Fort Wingate, N. M., for duty. S. O. 92, headquarters District of New Mexico, October 21, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING NOVEMBER 1, 1884.

BEARDSLEY, GROVE S., surgeon. To Washington, D. C., for examination preliminary to promotion and as to qualifications for sea duty. October 31, 1884.

CRAIG, THOMAS C., passed assistant surgeon. To the Alliance for temporary duty. October 31, 1884.

GARDNER, JAMES E., passed assistant surgeon. To the Naval Hospital, Norfolk, Va. October 28, 1884.

HALL, JOHN H., passed assistant surgeon. From the Naval Hospital, New York, to the Navy Yard, Mare Island, Cal. October 29, 1884.

HORD, WILLIAM T., medical director. To continue duty as member of the Retiring Board until January 1, 1884. October 27, 1884.

LOVERING, P. A., passed assistant surgeon. To the Naval Dispensary, Washington, D. C., for temporary duty. October 27, 1884.

TURNER, THOMAS J., medical director. To continue duty as member of the Retiring Board until January 1, 1884. October 27, 1884.

STEELE, JOHN M., passed assistant surgeon. To the Naval Hospital, New York. October 29, 1884.

MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY. — By invitation of the Faculty the annual meeting of the Society will be held at the Harvard Medical College, Boylston Street, on Thursday, November 6th, at 3.30 P. M. Members will have an opportunity to inspect the new building.

HENRY W. WILLIAMS, *President.*

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting will be held on the second Thursday of November, at the Medical Library Rooms, No. 19 Boylston Place, at four o'clock, P. M. A paper on Treatment of Uterine Flexions will be read by Dr. A. P. Clarke. Discussion will be opened by Dr. L. F. Warner.

H. J. HARRIMAN, M. D., *Assistant Secretary.*

DEATHS.

DIED, — At Dorchester (Boston), Mass., October 31, 1884, Edward Jarvis, M. D., M. M. S. S., aged eighty-one years.

At Marlborough, Mass., October 31, 1884, Nathan Savery Chamberlain, M. D., M. M. S. S., aged thirty-nine years.

BOOKS AND PAMPHLETS RECEIVED. — The Science and Art of Surgery. A Treatise on Surgical Injuries, Diseases, and Operations. By John Eric Ericksen, F. R. S., LL. D., F. R. C. S., Eighth Edition. Revised and Edited by Marcus Beck, M. S. and M. B. London, F. R. C. S. With 984 Engravings on Wood. Vol. I. Philadelphia: Henry C. Lea's Son & Co. 1884.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A. B., A. M., M. D., LL. D. Seventh American Edition Revised and Improved. Illustrated with 379 Wood-Cuts. Philadelphia: Henry C. Lea's Son & Co. 1884.

The Brain and the Nerves: Their Ailments and their Exhaustion. By Thomas Stretch Dowse, M. D., F. R. C. P. E., etc. New York: G. P. Putnam's Sons. 1884.

Transactions of the Louisiana State Medical Society at its Sixth Annual Session, held at Baton Rouge, La., May 21–23, 1884.

The Lockjaw of Infants (Trismus Nascentium), or Nine-Day Fits, Crying Spasms, etc. Its History, Cause, Prevention, and Cure. By J. F. Hartigan, M. D., Washington, D. C., Member of the American Medical Association, etc. New York: Bermingham & Co.

Cases of Interest. By Prof. Wm. H. Carmalt, M. D., of New Haven. (From Proceedings of Connecticut State Medical Society, 1884.) Hartford, Conn.

On Branchial Cysts of the Neck. By N. Senn, M. D., Milwaukee, Wis. Read in the Section on Surgery and Anatomy of the American Medical Association. (Reprint.) 1884.

Diphtheria Spread by Adults. By A. Jacobi, M. D. (Reprint from New York Medical Journal.) 1884.

Address in Ophthalmology. Delivered before the Medical Society of the State of Pennsylvania by W. S. Little, A. M., M. D., of Philadelphia, at its Annual Meeting, held at Philadelphia, May, 1884. (Reprint from its Transactions.)

Annual Report of the Secretary of the Navy for the Year 1883. In Two Volumes. Vol. II. Washington, D. C. 1883.

Lectures.

ÆTIOLOGY AND PROPAGATION OF CHOLERA.

LECTURE DELIVERED BEFORE THE SOCIETY OF ARTS, OCTOBER 23, 1884.

BY GEORGE B. SHATTUCK, M. D.,
Visiting Physician Boston City Hospital.

GENTLEMEN, — The subject to which your attention is asked this evening is the origin or cause and the mode of propagation or progression of cholera. Under the first head I shall touch upon the history of the disease, and under the second upon the measures adopted for its control, hitherto known under the generic name of quarantine. I shall try to condense what I have to say intelligibly within the limits of your patience, and at the same time take a broad, philosophical view of this great epidemic disease, avoiding as far as possible the details peculiar to local outbreaks.

Great epidemic diseases like the plague, like yellow fever, like cholera, have their rise, their culmination, their decline, just as great races, great social movements, or great religions have; and there is being gradually evolved a philosophical epidemiology, as there is a philosophy of ethnology, of sociology, of history. An individual outbreak of an epidemic bears the same relations to this as does a great battle to the fortunes of a race or form of civilization. Its signification lies in the causes which led up to it, and in the lessons it leaves, not in the number of killed and wounded or the names of the victors and vanquished.

In epidemiology, as in other departments, there are some matters of fact upon which authorities are agreed, some upon which they differ, and some matters of opinion and observation which are being now actively prosecuted, and I shall try to keep them separate.

Cholera has its myths and mythology, which need not detain us. It is thought by some to be one of the most ancient diseases of which distinct descriptions exist, and in support of this passages are cited from Hippocrates, from writers in Sanskrit, from Celsus, Aretæus, Galen, and plenty of other ancients; but the same thing is said with the same uncertainty of interpretation in regard to syphilis and other comparatively modern maladies. There is but little doubt, however, that cholera, as it presents itself to-day, has prevailed in India, in the province of Bengal, in the delta formed by the mouths of the Ganges and Brahmapootra Rivers for an indefinite period — perhaps as long as the human race itself. There, as is now generally agreed, is its home, there it is indigenous, there it is endemic, as the plague still is in Asia Minor or yellow fever in Havana, and from thence it starts out periodically to invade the civilized countries of the Western Hemisphere as did the plague from its home in the Middle Ages.

The reliable history of cholera, with which alone we will concern ourselves, dates back scarcely farther than the middle of the last century, when the English began to occupy India, and it is only since the beginning of this century that any really accurate records of its movements are to be found.

The first world-famous epidemic extending beyond the limits of Bengal was that of 1817. This was a year for one of the great twelfth yearly festivals or pilgrimages which are held every year in all parts of India, but increase in sanctity every third, sixth, and ninth year, and still more every twelfth and sixtieth year. It was also a year of marked climatological peculiarities. This epidemic traveled slowly, in conformity with the means of communication in India at that time, but in the course of six years it covered nearly the whole of Asia and a large part of India, moving especially toward the northwest, and reaching the borders of Persia and Arabia in 1822–1823. From this time there was a period of comparative quiescence for two or three years, but in 1825–1826 it was again on the march, and in August, 1829, the first fatal case of cholera occurred in Europe at Orenboorg, a town in the Russian Ural, on the borders of Tartary, and on the line of the caravans trading with China, Persia, and the East. The disease had now reached virgin soil and comparatively rapid modes of transit, and soon availed itself of its privileges.

In September of 1830 Moscow was attacked, and St. Petersburg in June of 1831, by which time it had already spread through Poland, and presented itself at Prussian towns on the Baltic. England was reached from Hamburg in October of this year, London being attacked in January, Edinburgh in February, and Dublin in March of 1832, in which month — crossing from England to France — it showed itself at Calais and at Paris, pursuing this same course in the epidemics of 1849 and 1853. It crossed the Atlantic with emigrants, and presented itself in the St. Lawrence River at the end of April, though not heard of as spreading in Montreal and Quebec until early in June. New York is suspected of having received the disease about the same time, but if so it was unacknowledged, and quarantine records for the months of April, May, and June of that year are, strange to say, not to be found.

This epidemic was especially severe in Canada, from whence it crept down the valley of Lake Champlain and the Hudson River, and attacked towns on our northern frontier by July, among the earliest Detroit. Some of the earliest cases of the disease in this first invasion of our country are said to have followed the stranding of a brig on the coast of South Carolina. Eventually all the cities of the Atlantic sea-board were invaded, but Boston and Massachusetts practically escaped.

New Orleans was reached in November, and Mexico invaded in the summer of 1833. In the mean time having remained quiescent in Europe it again broke out in epidemic form in June, 1833, this time in Portugal, and prevailed in one country or another until toward the end of 1837. Having prevailed in India and Persia during the interval, it again broke out in Europe in 1847, the first case occurring at Constantinople. During 1848 cholera traveled nearly all over Europe, entering England as before from Hamburg, and reaching Paris in March of 1849. It reached the United States this time almost simultaneously at New York and New Orleans early in December, 1848, the disease at each place being introduced by German emigrants, sailing themselves in good health from an unaffected port — Havre — but bringing infected clothing, which, on account of changes in the weather, was unpacked on the voyage. The first cases occurred when the vessels had been sixteen and twenty-seven days at sea respectively. Quarantine and cold weather checked the cholera at Staten Island, but it spread from New Orleans up the Mississippi Valley, and New York was invaded later. The fatal cases, 611 in number, during this epidemic in Boston were

proved to be remarkably confined to the crowded dirty parts of the city. The cholera hospital was at Fort Hill.

Toward the end of 1852 cholera again invaded Europe from the East, pursuing a very similar course to its previous one. It was during this outbreak in London in 1854 that Dr. Snow performed his now famous experiment of removing a pump handle, thereby depriving the inhabitants of Broad Street and its neighborhood at once of contaminated drinking water and of further disease. In 1853 and 1854 the United States and the West Indies were visited. The next general epidemic in Europe and this country was in 1865–1866, during the Austro-Prussian war. In this year cholera was particularly severe in London at the East End, a portion of the city supplied by a water company whose reservoir was little better than a sewage receptacle.

In the autumn of 1865 cholera arrived in New York but did not spread, and in the spring of 1866 it was brought both to Halifax and New York. During this epidemic St. Louis was an especial sufferer, having 3500 deaths in a population of 200,000. Boston again escaped with a very light visitation. In the last epidemic of 1873–1874 cholera visited this country before it appeared in Paris. It was first brought to New Orleans by an infected Bremen barque; many cases, however, were early imported directly through New York on non-infected vessels, the disease being subsequently developed at various points from the infected personal effects of emigrants when unpacked at their final destination.

The outbreak in Egypt last year was preliminary to that in France this year, and its details are sufficiently recent to be remembered by you.

The exact origin of the present outbreak is, but ought not to be, a mystery. The medical commissioners sent by the government from Paris to investigate it declare themselves unable to discover the origin of the first case reported to have occurred, June 14th, on board the Montebello of the French navy, a vessel which had been lying in port fifteen months. They exculpate the Sarthe, a transport from Cochin China, which had been peculiarly incriminated. It is most probable, whether unacknowledged or really not known, that this or some other transport returning from the East brought the poison in clothing, if not otherwise. The port of Toulon is one of the dirtiest places in Europe, famous for typhoid fever. The weather was hot, the nature of the malady was not distinctly acknowledged for at least ten days, and the epidemic was started, Marseilles, another very dirty city, being presently attacked.

The subsequent occurrences in Spain and Italy, the most quarantined countries in Europe, are still fresh in the minds of all of you, and I need not recapitulate them. In the three countries at least sixteen thousand victims have fallen this summer since June, of whom nearly two thirds were Italians and about six thousand five hundred Neapolitans.

All past experience leads to the belief that the present epidemic will sooner or later visit a much wider extent of the commercial world. Such countries as Germany, England, and our own, it may be said, were never so little favorable to its reception, but there is still in all of them food enough for the poison to feed upon, and on the other hand the more rapid the methods of travel and interchange of commodities the quicker the progress of such pests. A low temperature, though inimical to is by no means preventive of cholera, as shown at Orenboorg and Moscow, where, other conditions being favorable, it progressed under temperatures of −22° F. and −4° F. respectively. We may be invaded from Canada as in 1832, from New Orleans or some other Southern port as in 1848 and 1873, from New York as in 1866 and 1873. The federal authorities of the State and Treasury Departments, the State Boards of Health and city boards — at least at ports on the Northern Atlantic sea-coast — are awake to the possibilities of the situation. Public authorities, however, must be seconded by individual effort.

From this brief review of the history of cholera since the existence of accurate records, and of its course in the Western Hemisphere since its first appearance in Europe in 1829–1830, one learns two facts upon which epidemiologists are pretty well agreed: (1.) That cholera is constantly present in some part of India, where it has its periods of recrudescence, which precede the European outbreaks. (2.) That Europe is, as a rule, invaded along the lines of travel; the first epidemic followed the course of the caravans to Orenboorg in Central Russia, the last the line of the steamers up the Red Sea to Alexandria and the Mediterranean ports in Southern France.

Being agreed upon these points, the question naturally presenting itself is, Why India and the province of Bengal in India should be the home and breeding ground of cholera. And the answer is to be found in the very character of the Ganges Delta, in its climate, soil, water-courses, and consequent habits of immense neighboring populations. This is as fair an explanation as one gives for the existence of the Negro in Africa, the Mongolian in Asia, the Caucasian in Europe. In neither case need we be required to account for the appearance of the primordial representative.

The characteristics of the Ganges Delta have been often described, but I will give them to you in the words of the now famous Dr. Koch,[1] who has been a recent visitor and went to study cholera: —

"On the map of the province of Bengal you will see the Delta of the Ganges, which is bordered on the west by the river Hooghly, an arm of the Ganges, and on the east by the Brahmapootra.

"The cholera prevails continuously in the whole of this region, and on the banks of the Ganges as far up as Benares. The upper part of the Delta is not thickly set with villages, whilst the base of the triangle seems entirely uninhabited. This uninhabited district, called Sunderbunds, comprises an area of 7500 English square miles, and is separated from the thickly populated northern portion of the Delta by an extremely sharp line. Here the large rivers, Ganges and Brahmapootra, break up into a net-work of streams, in which, at the tides, the sea-water, mixing with the river-water, flows backwards and forwards, completely flooding wide tracts of the Sunderbunds at high tide.

"A luxuriant vegetation and an abundant variety of animal life have developed in this uninhabited district, a district which is not only unapproachable for man owing to the inundations and numerous tigers to be found here, but is chiefly avoided owing to the pernicious fevers which attack anybody who stops there for only a very short time. One can easily imagine what quantities of vegetable and animal matter are exposed to putrefaction in the boggy district of the Sunderbunds, and that an opportunity, scarcely to be found in any

[1] Extract from an Address before the Imperial Board of Health, Berlin. Translation in Brit. Med. Journal, September 6, 1884.

other place in the world, is offered here for the development of micro-organisms. In this respect the boundary between the inhabited and uninhabited part of the Delta is especially favorable, where the refuse from an exceptionally thickly populated country is floated down by the small streams, and mixes with the brackish water of the Sunderbunds that flows backwards and forwards, and is already saturated with putrefied matter. Under peculiar circumstances a thoroughly special fauna and flora of micro-organisms must develop here, to which in all probability the comma bacillus belongs. For everything points to the supposition that cholera derives its origin from this frontier territory. All the greater epidemics commence with an increase of cholera in the south of Bengal. Jessore, from which place the first news about the epidemic of 1817 came, lies on the borders of the Sunderbunds, and Calcutta, which is now the constant habitat of cholera, is connected with the neighboring Sunderbunds by a boggy and scantily inhabited tract of land.

"But further, the comma bacillus finds, in the districts adjoining the supposed habitat, the most favorable conditions that can be imagined for obtaining a footing and transferring itself from one man to another. For lower Bengal is a perfectly flat country, only very slightly raised above the level of the sea, and during the tropical rains almost the whole extent of it is under water. Hence everybody who settles there must, in order to protect himself from these annual inundations, build his hut on raised ground. This kind of building is seen in all the villages of the Delta, even in Calcutta itself, especially in the immediate neighborhood and in the suburbs of Calcutta, which more or less bear the character of villages. Every house or group of houses stands on a flat, rising ground, which has been made by taking the earth from a spot near where the hut is built in order to raise the ground on which the house stands. The excavation thus made becomes filled with water and forms a so-called tank.

"Every hut or group of huts must, therefore, have a tank, more or less large, and the number of these tanks is accordingly very great. The town of Calcutta alone had, till a short time ago, about eight hundred tanks, although a large number of them had been filled up for sanitary reasons. In the suburbs of Calcutta there are, besides, more than a thousand tanks still existing. I have already mentioned the part that the tanks play in the household of the Indian population, and how adapted they are for spreading the cholera. . . .

"In the interior of the town of Calcutta, amongst massive houses and villas looking like palaces, groups of huts, crowded together and resembling villages, are to be found, exclusively inhabited by natives. These villages in the interior of the town are called bustees. The huts of a bustee possess no drains, sewerage, or anything of this kind. All the dirt is collected between the houses, and, owing to the narrow mode of building, can only be removed in a very incomplete manner; and, finally, reaches the tanks directly, or is brought thither by the rain; so that the tanks become the natural places of collection for all liquid filth. . . .

"In India, also, the spread of cholera depends upon the intercourse of human beings, and is chiefly caused by the pilgrimages, which have developed in quite an unusual manner in India. We can scarcely form an idea how widely diffused these pilgrimages are in India. In order to give you an example I will only cite the two chief places of pilgrimage, Hurdwar and Puri. These are places to which hundreds of thousands of people, sometimes more than a million, flock annually from all parts of India. The pilgrims remain there for several weeks; they are penned together in a confined space, and live in a most miserable manner. Tanks are to be found everywhere in these places also, in which thousands of people bathe; they also drink the water from these tanks. It is by no means astonishing if, under these conditions, the disease, when it does break out amongst the flocks of pilgrims, is speedily scattered over the whole of India and reaches every place."

As far as anything is known of the subject cholera epidemics have never broken out "spontaneously," as it were, outside of India, and they depend upon the intercourse of human beings for their propagation. Moreover, outside of India and Cochin China their tendency is always to die out after a comparatively short space of time. These points are to-day fixed and settled, and constitute a great gain in knowledge over a very recent time when the partisans of many hypotheses, or notions rather, as to the cause and progress of cholera were in constant collision with each other and with facts. According to one of the earlier suppostions "the disease advanced as a great morbific wave rolling slowly and steadily westward, enveloping place after place, and country after country, with a certain steady progress at nearly regular intervals; next it was supposed, as it often seemed to come with ships, and the commerce of the world was then carried on by sailing vessels, that it was blown about by the same winds which brought the ships; but as land-travelers brought the pestilence in spite of and in the teeth of winds it was found necessary to suppose that ships brought it in their holds and well travelers in their soiled clothes, especially in those which had been boxed up." [1]

The present position of the best authorities, which meets facts as observed, and may be accepted as correct, may be briefly stated thus: That cholera is conveyed by individuals, and its poison is contained in and is propagated by the discharges from the bowels of those infected, which finding access to drinking water, or resting upon food or upon the hands, gain entrance to the digestive tract of others. It is not certain that in a heavily charged atmosphere the poison may not be swallowed with the air, but the infection must always take place through the alimentary canal, and in this very limited sense alone can cholera be spoken of as "contagious," thus probably resembling typhoid fever. In other words, an individual who could avoid swallowing the poison might safely associate with cholera patients, and the digestive functions being quite healthy he would probably escape even if swallowing a moderate dose.

I purposely abstain from going into the minute pathology of cholera, from calling the poison a germ, much less a microbe, and still less a bacillus or spirillum. This whole department of minute pathology is, it seems to me, too technical and still too unsettled for our purposes this evening. Its introduction would, moreover, make a long story much longer.

We will now turn to the second part of the subject of the evening, the progress and propagation of cholera, which leads us to the measures to be adopted for its

[1] Congressional Report, 1874.

prevention — so long and unfortunately known as quarantine. A review of the history of cholera and a statement of its ætiology and mode of propagation suggest immediately its mode of progress and the means of prevention. The flux of the bowel contains the poison, moist filth nourishes and breeds it, the deranged alimentary canal invites and entertains it anew.

Hence to prevent the entrance of the disease to a place or country we require cleanliness of person and purlieus, a plentiful and pure water supply, perfect drainage, and wholesome living. To oppose its spread, once being in, we demand occasional isolation of the sick, and constant destruction or disinfection of contaminated discharges and effects.

Just in proportion as communities are conscious of shortcomings in sanitation, in water supplies, in drainage, and are too poor or too lazy to reform such, they may and will call for a quarantine whose rigidity shall be in direct ratio to these deficiencies. They may thus deceive but will not protect themselves. The worthlessness of a perfunctory quarantine of a fixed number of days — whether of five or of forty — for every vessel if on the sea-board, or for every individual if in the interior, has been proved over and over again, and never more forcibly than in the late invasions of Italy and Spain. If declared only against infected ports or localities it is insufficient, if against every outside place it is impossible. The enormous and intimate commerce of the day abhors such obstructions, and ingenious human nature evades them. A French sanitarian well expressed this in his reply when asked why the inhabitants of Toulon were permitted to infect the outside country: "If we had built a wall around the city the people would have burrowed under it." A *cordon sanitaire* is always foolish and often wicked. There are also especial difficulties in excluding and controlling such a disease at a town like Toulon, with its population. What might be comparatively simple in Boston, or even in New York, would be impossible there. The French Minister of the Interior gave expression to these perplexities in saying, that it would be easier to revise the Constitution than to renovate Toulon.

The period of incubation of cholera is believed to be over twelve hours and under five days. On an average two to three days. The life of the poison outside the bowel, even when favored by moisture, is believed to be rather short — probably under thirty days. Based on these observations the best aid to sanitary supervision at home for the exclusion of cholera is notification from foreign ports or places by competent authorities of the departure of infected vessels or individuals, and inspection upon arrival by trained sanitary officers with a certain latitude of action. More reliance being placed upon the judgment of the individual official than upon the rigid phraseology of a State or national proclamation.

A conference of State Boards of Health met at St. Louis last week and adopted a series of recommendations for "practical work required for the prevention of cholera in this country," to be urged upon the government at Washington, upon State authorities, and upon individual citizens, a copy of which I hold in my hand.

The representatives of interior countries and of those on the sea-board necessarily take somewhat different views of the value of quarantine and of the relative reliance to be placed upon external and internal quarantine. There appears in the recommendations adopted a desire to harmonize conflicting views, and to secure the coöperation of all concerned.

There will always be the inclination to place the responsibility for the introduction of a disastrous epidemic at some remote point, and upon some one else's shortcomings. In our own country States situated in the Mississippi Valley feel that New Orleans should protect them from and not furnish them with yellow fever. Illinois is, naturally, aggrieved if New York and Boston send unvaccinated immigrants, with smallpox contagion among them, by through trains into her borders. In some degree in these matters there is cause for complaint, in some degree fear and feeling and an unwillingness to put things to rights at home have at times usurped the place of reason and judgment.

If I have been in any way obscure or unsatisfactory in what I have said let me hope that you will in some degree at least attribute it to the want of proportion between the subject and the time of the Society which I felt at liberty to allow myself.

And in conclusion let me again remind you that a good water supply, good drainage, wholesome living, a tranquil spirit, these are the true safeguards against cholera preëminently, as against sundry other epidemic disorders in a lesser degree. These are the agents dreaded by epidemic poisons even if really residing in microbes with pathological tendencies, and whether presenting themselves in the bacillar or the spirillar forms, or as hybrids with comma-like extremities.

Original Articles.

THE PREPARATION OF LIEBIG'S FOOD.[1]

BY E. T. WILLIAMS, M. D.

THE earliest announcement of Liebig's method of preparing infants' food was received with the warmest enthusiasm by the profession and the public. The idea of using malt as an artificial digestive for starch was certainly a brilliant one, and seemed to promise an infallible cure for every form of starchy dyspepsia both in children and adults. It must be confessed, however, that time and experience have not fully borne out these expectations. The results obtained from its use were found to vary. Many gave it up in disappointment. Others altered and tried to improve it. In fact it has never been generally adopted. Notwithstanding all this its benefits in many cases are decided, so that we shall find, I think, that the trouble lies not in the thing itself, or the principle on which it rests, but in a faulty method of preparing it.

The commonest objection to Liebig's original formula is that it is too complicated. I consider this objection entirely frivolous. It is no more complicated than making bread or pastry, or any other of the common operations of cookery. I give here in substance Liebig's own directions, though I shall take the liberty of simplifying a little both the language and the process: —

Mix half an ounce of wheat flour with five ounces of milk in a saucepan, taking care not to lump it. Heat it to boiling, stirring carefully; let it boil from three to four minutes, and remove from the fire. Now mix half an ounce of malt flour, one ounce of water,

[1] Read before the Norfolk District Medical Society, October 28, 1884.

and seven and a quarter grains of bicarbonate of potash, and add it to the milk porridge, stirring steadily. This has the effect of thinning it out and making it sweet. Now cover up the vessel and let it stand half an hour where it will keep warm but not boil. Finally set it back on the fire, let it boil up once, and strain it through a fine hair sieve to remove the bran.

The temperature at which the mixture should be kept after the addition of the malt should be about 150° F. Be sure that the porridge has entirely ceased boiling before the malt is added. The food when done should be quite thin and sweet.

It will be seen that there is nothing difficult about this process. No one can say so who has tried it, however hard it may look on paper. Every physician ought to be able to teach the mother, nurse, or cook how to make it.

It may be remembered, as Liebig remarks, to save the trouble of weighing, that a heaping tablespoonful of wheat flour weighs just about half an ounce. One half of a heaping tablespoonful of malt flour weighs the same. The liquids may be measured in a tablespoon or wine-glass. The former contains one half ounce, the latter two ounces of liquid. The potash should be put up in powders by the apothecary. Most cooks could "pinch" it up pretty accurately with the thumb and finger.

On the subject of malt, Liebig's directions are as follows: —

"Barley malt can be readily bought of any brewer. . . . A common coffee-mill answers for the preparation of the malt flour. It must be separated from the bran by passing it through a coarse hair sieve."

Such is the original formula, simplified a little, from Liebig. In many cases it answers every purpose perfectly well. There is, however, one serious objection to it. The food sometimes loosens the bowels. Such is my own experience; such is the general testimony of those who have used it. The trouble seems to be this: the coffee-mill grinds up too much bran, which gives a laxative quality to the food. I do not know what sort of a mill Liebig used, or what kind is most common in Germany, but the American mill (and I have tried this experiment many times) grinds husk and grain together, so that it is impossible to purify it effectually by sifting, thus rendering the food quite unfit for dyspeptic children, or those subject to a loose or washy state of the bowels. Whoever will try the experiment of grinding malt in this way and examine the flour (no matter how carefully sifted) under the microscope will find it quite full of angular pieces of husk, fully sufficient to explain its irritating action on the intestinal lining. I believe this to be the radical defect of the Liebig process, and the grand reason why the food has never come into more extended use.

It was long since discovered by practical men that the food was uncertain in its action, and apt to disagree. This led many to look for a better way of making it.

One of the best plans is to use a prepared malt extract in place of the malt flour. A liquid malt extract is now officinal in the United States, and is prepared by dissolving out the soluble part of the malt in water, and evaporating down to a syrupy consistence. This, of course, eliminates completely the insoluble husks. There are several brands of malt extract in the market, of which Trommer's is perhaps the best known. It makes excellent Liebig's food, and, as far as my experience goes, is entirely devoid of laxative properties. Keasby and Mattison's extract, and Reed and Carnrick's "Maltine" (in spite of its objectionable name), seem to answer equally well.

I have tried several forms of "dry" extract of malt, Horlick's, Thayer's, and Tilden's. The samples tested were purchased in the open market and were apparently fresh. I am sorry to say that their diastatic action was extremely slight. Not one of them could turn its own weight of starch into sugar. This is readily tested by boiling a little flour or starch with water in a test tube or saucepan till it thickens up, then removing from the fire till it stops boiling, then stirring in the malt or malt extract previously wetted. If diastase in proper amount is present the starch paste soon thins out and becomes quite fluid, from the change of the starch into gum (dextrine) and sugar. The same change takes place in making Liebig's food. It is then sweet to the taste, and continues to grow more so the longer it is heated, until all the dextrine is changed into glucose. When tested with iodine it shows an entire absence of starch. Under these tests the dry malt extracts which I examined showed themselves to be of little value. The action of the liquid extracts was good, though not so good as fresh malt. I attribute this superiority of the liquid extracts to the syrup, which, as I fancy, acts as a preservative to the diastase.

I ought here to mention that the experiments above quoted were made during the last season at the Sea-Shore Home with the assistance of the house physician, Mr. Charles W. Townsend, of the Harvard Medical School. We tried most of them separately and together, so that I feel able to state the results with confidence.

It is evident, therefore, that a liquid malt extract like that of the Pharmacopœia may be satisfactorily substituted for malt flour in the preparation of Liebig's food. Being free from insoluble matter it may be relied on not to scour or purge. The only objection is the high cost of the extracts now in the market. The Trommer extract sells for one dollar a pint; Keasby and Mattison's the same; the "Maltine" bottle is larger, containing about a pint and a half; the price is the same. Malt itself is worth from five to ten cents a pound.

The notion of a manufactured Liebig's food prepared to hand and ready for use was a natural conception, and has much in its favor. This does away with the trouble of cooking, and secures a perfectly uniform product. One of Liebig's sons, with the "help and approval" of his father, as he states,[1] is or was concerned in the manufacture of such an article under the name of an extract of Liebig's food. Similar preparations under less honest names have been sold in England and America. They are made or should be made by digesting malt and water in the form of a "mash," as brewers do, till the starch changes to glucose, and then evaporating to dryness in a vacuum. They are nothing more than Liebig's food ready made and evaporated down for convenience of keeping and dispensing. The popular Mellin's and Horlick's foods are supposed to be articles of this sort. They consist mainly of grape sugar with the nitrogenous and mineral elements of grain. The objections to their use are the misleading names under which they are sold, and their high

[1] Vide J. v. Liebig, Suppe für Säuglinge, dritte Auflage, Seite 37. Braunschweig. Vieweg und Sohn. 1877.

price. A half-pound bottle of Mellin's food costs seventy-five cents. A one-pound can of Horlick's food sells for the same price. It is not easy to understand why these articles should cost much more than common sugar. Malt and other grains cost but a few cents a pound. The mashing process is the same as in making beer. The evaporation *in vacuo*, the only expensive part of the operation, is similarly employed in making sugar. Making all allowance for the outlay on machinery, the expenses of selling and advertising, and for loss by spoiling, it is clear that the profits on these foods must be enormously large. On the other hand, it is fair to say that they are good foods as far as nutritive purposes go, and suit children extremely well. It is to be hoped that greater competition and a more enlightened public opinion may bring the prices within reasonable limits. The same hope may be expressed with regard to the malt extracts. At present prices these preparations are entirely beyond the means of the poor people, who form the bulk of our patients.

This drives us back again to a closer consideration of the original formula. Its cheapness and ready availability make it by all means the most desirable method if we can only find a way to remedy its one serious defect, the presence of the indigestible husks.

I believe I have hit on a way to do this in an improved method of preparing the malt flour. Instead of grinding the malt in a coffee-mill I have adopted the plan of crushing or braying it with a mortar and pestle. This breaks up the kernel but does not, unless carried too far, grind and tear the husk. It is highly important to use the pestle lightly, not to put but a small quantity in the mortar at once, and not to pound or grind too long, as this breaks up the husk too much. The meal should then be "bolted" or sifted through a fine wire or hair sieve. This makes a fairly good imitation of the miller's way of grinding. The fine malt flour thus obtained should not exceed in bulk more than half the mass of separated husks and bran. Examined under the microscope the proportion of seed coats and hairs is found to be far less than in that made by the coffee-mill process. This fact was carefully verified by Mr. Townsend, who was good enough to make the examination for me, and who showed me the slides which he had prepared. I am sorry I have not yet had the opportunity of testing the flour as fully as I should like upon sick children, as the season was nearly closed when the idea first suggested itself to my mind. Another year I intend to give it a thorough trial.

It will be objected, of course, that this is a troublesome plan. Few housewives make it much of a task to pound up sugar and spices for the making of indigestible cake and pastry. Few mothers would think it a hardship to do as much for a beloved child provided they understood exactly how to do it. It should be the duty of the physician to go down into the kitchen and instruct the household in every detail of the operation.

A few minor considerations before I close the subject.

Liebig directs the food to be made of nearly clear milk. For children within the month it ought to be at least two thirds water; from one to three months, half and half; at four and five months, two thirds milk; at six months, the full strength.

Liebig alkalizes the food with bicarbonate of potash to prevent its curdling on the stomach. In cases of diarrhœa lime-water should be substituted in the proportion of a tablespoonful, or more if necessary, to six ounces of the food.

Liebig recommends the food as a nutritious drink for adults as well as children. Its suitability for invalids and convalescents, for nursing mothers, and starchy dyspeptics goes without saying. Liebig recommends it in coffee in the place of cream. I have found it very good in chocolate. With coffee especially, in the style of *café au lait*, I have found it a capital breakfast drink. I think that both coffee and chocolate *à la Liebig*, if they could be made fashionable, would make a most useful addition to our dietary.

I should say, in conclusion, that malt may be purchased of any grain dealer. As it spoils very quickly it should be bought only in the smallest quantities, and closely kept in a glass-stoppered bottle or tin canister. Only enough for a few days' use should be ground at a time.

UNILATERAL ATROPHY.

BY H. L. BURRELL, M. D.

A DECIDED inequality in the two halves of the body is extremely rare; slight inequalities are the rule rather than the exception.

A decided inequality in the halves of the body is considered a deformity, and the cases which are presented in this paper are looked upon in the light of deformity, passing as they do the boundary line of normal asymmetry into the interesting field of pathology. On looking at these photographs it is at once recognized that we have before us a strange condition. A female child of nine years, each half of its body perfectly developed, but the left two or three years behind the right half in its stage of development. The face is not shown, at the mother's request, it being practically symmetrical; the whole left half of the trunk, however, is markedly diminished in size; this is especially marked in comparing the clavicles and the halves of the pelvis. The circumference and length of the arm, fore-arm, thigh, leg, and foot of the left side are less than the right, and one is particularly struck with the posture the child assumes, it being very suggestive of hip trouble; a glance, however, at the posterior view of the child shows neither flattening of the nates or obliteration of the normal sulci, but shows in a very clear manner the compensatory obliquity that takes place in the pelvis and the resulting spinal curve.

Of much interest in connection with these deformities is a consideration of the fallacies surrounding measurements of the lower limbs and the normal asymmetry of the human form.

Sculptors, artists, hatters, tailors and shoemakers have always been familiar with this fact, and it is surprising that surgeons should not have more generally appreciated this source of fallacy in their measurements of the extremities. Hunt,[2] of Philadelphia, claims to be the first to have suggested that "bilateral symmetry as to length is exceptional," a fact of great importance in suits of malpractice.

W. C. Cox called attention[3] "to the difference in

[1] Read before the Surgical Section of the Suffolk District Medical Society, March 7, 1884.
[2] Am. Jour. Med. Sc., January, 1879.
[3] Am. Jour. Med. Sc., 1875, vol. lxix., p. 438.

measurements of the opposite sides of persons never diseased or injured." Out of sixty-two persons examined only six were found with extremities of the same length.

Dr. Wight[1] gives the measurements of sixty persons, and concludes that one person in every five has limbs of the same length. Dr. Morton in the Pennsylvania Hospital Reports[2] states that he has examined the length of the lower limbs in 513 boys from eight to eighteen years old. In 272 there was inequality.

Then come statistics which seem to settle the question. Roberts[3] found asymmetry the rule in femora and tibiæ of eight skeletons. Dr. Thomas Dwight[4] reports the measurements in eleven skeletons, and found only five in which the femora were equal; and J. G. Garson reports[5] the measurements of seventy



skeletons, and found asymmetry in ninety per cent. During the last year three cases of unilateral atrophy have presented themselves at the Children's Hospital Out-patient's Department, and in looking up the literature of the subject it is found that only a few cases are recorded.

Paul Broca[6] reports a boy aged eleven as appearing "as if the two halves of the body were different sized persons joined together."

In 1863 Mons. L. Ollier recorded[7] a number of experiments in animals by tying the various arteries and by section of the nerves supplying the different extremities. No satisfactory conclusion can be drawn from these experiments, and one can only surmise that some disturbance of the trophic centres exists as a factor in the causation of the atrophy.

A. Stadfeldt[8] and Jacobi[9] consider the causation anterior to the sixth month of fœtal life, and Jacobi has a theory that the condition is of pre-placental origin.

Mr. Howden gives a case[10] of an insane woman, aged thirty, who had atrophy of the right hemisphere of the cerebrum and left side of the cerebellum, with atrophy of the left side of the body.

A case of unilateral atrophy was exhibited before the Clinical Society of London of left-sided atrophy with athetosis, in a woman aged twenty-two, by Dr. T. Taylor.[11] Another case of marked left-sided atrophy was shown to the Société Anatomique by Henry C. Beyer.[12]

Two other cases are recorded: one of congenital unilateral atrophy by Sumner Pixley,[13] the other a case of semi-facial atrophy by Schiek.[14]

The first case observed was that of a bright girl, M. B., aged nine, born in Canada, and living in South Boston. The child had always been rather delicate, but no difference was noticed in the development of the halves of the body until the child began to walk. She applies at the out-patient's department on account of limping. On removing the clothing one notices that the whole of the upper and lower extremity of the left side are smaller than the right. The left arm is one inch shorter than the right; the left thigh one and a half inches shorter; the left leg and left foot are each one half inch shorter than their fellow.

No difference in the development of the halves of the face is apparent.

The left fore-arm is a quarter inch smaller than the right; the left thigh a half inch, and the left leg a quarter inch less than the right.

Second case. J. R. M., aged four, born in Boston. He is a ruddy, sturdy little boy, who "has always been well." The mother noticed a slight limp when he began to walk. The right thigh and leg together are a half inch shorter than the left; the thigh is a half inch, the leg a quarter inch, smaller than the left. The child is left handed, and left arm and fore-arm are perhaps slightly larger than the right. The right foot measures a quarter of an inch in length.

Each lower extremity is perfectly developed up to its standard, but on comparison one notices that the right is decidedly the smaller of the two. The head and upper extremity are apparently nearly equally developed.

The last case is a female child, S. M., aged two years and three months, who lives in Waltham. The mother states that the child has always been strong and healthy, but when eighteen months old began to walk,

1 Arch. Clin. Surgery, vol. i., No. 8, February, 1877.
2 Boston Med. and Surg. Jour., April 15, 1880.
3 Phil. Med. Times, August 3, 1878.
4 Identification of the Human Skeleton, Mass. Med. Soc. Communications, 1878, p. 175.
5 Jour. Anat. and Physiol., Lond., 1878 and 1879, vol. xiii., pp. 502 to 507.
6 Canstatt's Jahresbericht, 1859, vol. iv., p. 6.
7 J. de la Physiol. de l'Homme, Par., 1863, vol. vi., pp. 106 to 116.
8 On the Asymmetry of the Body of the Human Skeleton.
9 Trans. New York Obst. Soc., 1871.
10 In Jour. Anat. and Physiol., vol. ix., p. 288.
11 Lancet, 1878, vol. i., p. 387.
12 Le Progress Medicale, 1878, p. 142.
13 Phil. Med. News, 1883, vol. xliii., p. 146.
14 Berlin. klin. Wochenschrift, 1883, November 5th.

and from the first with a limp. There has never been any loss of power in the limb. The child is very bright and well nourished, but walks with a decided limp of left leg. When the child stands erect, resting both feet upon the ground, the right knee is bent slightly forward. When the right leg is perfectly straight and pelvis horizontal the left leg does not fully reach the ground. Measurements give three quarters of an inch shortening in left leg, three eighths of an inch of the shortening being in the thigh. There is half an inch of atrophy of the left thigh, and a quarter of an inch of the leg. The left foot is decidedly smaller than the right (seemingly more marked than the tracing would show). By measurement in its longest diameter the left foot is a quarter of an inch less than its fellow. There is beginning valgus of the right foot. The face and upper extremities were closely examined, and were found to be slightly smaller than the unaffected side.

The treatment in all these cases has been an extra sole on the shoe to horizontallize the pelvis.

The writer has not considered measurements under a quarter of an inch, believing that the finding of bony prominences covered with soft parts as a point of departure in making any given measurement allows a latitude of at least an eighth of an inch in the hands of the most accurate observers; and pertinent to this question is an apt remark made by the late Dr. T. B. Curtis, who believed "that to find the anterior superior spinous process of the ilium in a living subject was as difficult as to precisely determine the top of a hill."

As far as the parents' observations go the atrophy is not progressive, and although these cases are not termed congenital there can be but little doubt that this is not an acquired deformity.[1] Whether the disproportion has been caused by an excessive growth on the one side or a retarded growth on the other is not easy to decide. Beyond this I cannot venture into the region of speculation as to cause.

In considering these cases as a class one finds that the mother's labors have been perfectly normal; that there is no difference in the pulse, temperature, consistency, tendon reflex or ankle clonus of the affected side; that the children are in good health; that they have never received any injury; that they simply apply for relief to the lameness; that the mother first noticed the trouble when the child began to walk; and that there has never been any loss of power in the affected limbs. The practical importance of these cases rests upon a recognition of the deformity, its differential diagnosis from various diseases having as a symptom lameness and atrophy of one of the limbs, and the general influence it will have in causing deviations in the spinal column, by obliquity of the pelvis. The important bearing which inequality in the length of limbs may have in producing lateral curvature is well set forth in a recent paper by Henry Ling Taylor,[2] where he reports thirty-two cases of primary crural asymmetry. The left leg was found to be longer in twenty-eight cases, the right in four. Dr. Taylor's differences in measurements are not in eighths or fourths of an inch; in sixteen cases the difference is over one half an inch, and in six it is an inch or more.

Not only may obliquity of the pelvis result from this lack of symmetry, but it is probable that in female children important changes may take place in the pelvic cavity that may interfere very seriously with parturition. Finally, in one of our cases we have a beginning valgus which is apparently compensatory, and this deformity superadded to the asymmetry would seriously interfere with the locomotion of any child.

[1] In this connection it is well to say that were the writer positive that the deformity is congenital he would prefer the term asymmetry to that of atrophy.

[2] New York Med. Rec., 1884, April 26th, p. 456.

A FATAL CASE OF PUERPERAL CONVULSIONS PRECEDED BY EXCESSIVE EPIGASTRIC PAIN.

BY F. W. GOSS, M. D.

MARCH 1, 1884, I was called to a lady, thirty-two years of age, seven and one half months advanced in her fourth pregnancy, with the following history: —

Two years ago she had a miscarriage. Her confinements in 1876 and 1879 were, she thought, a little premature, but not otherwise abnormal. During the present pregnancy she has been quite comfortable most of the time, and appeared to be in a satisfactory condition when, six weeks ago, she called to engage me for her confinement, since which time I have not seen her until now.

At 12.30 A. M., March 1st, I found her suffering with intense pain in the epigastrium, extending through to the back. She said that for two days past she had had some discomfort in these parts, which she attributed to having taken cold in going into town in the horse cars three days ago. She ate a good dinner at six o'clock last evening, and was quite comfortable till within an hour, when the severe pain above mentioned came on. She has no headache, nor has she suffered from it, excepting occasionally, and no more than for years. No trouble with eyesight. Slight œdema of feet; none elsewhere. Cardiac and pulmonary sounds normal. No signs of labor. She thinks her urine may have been more abundant than usual for a few days past.

As stated above, I found her suffering from agonizing pain in the epigastrium and the opposite part of the back. She was restless, cold, pulse 76. Had a load at stomach, but had not vomited.

At one A. M. she vomited, evidently her dinner undigested. She felt easier for a few minutes, but the pain soon returned. Under the administration of morphia by the mouth and subcutaneously, and the application of chloroform liniment, she gradually became more comfortable, and at 4.30 A. M. I left her sleeping. I requested a specimen of urine as soon as any should be passed.

7.30 A. M. Has slept two hours, and is much refreshed. Has been thirsty, and has drunk a large amount of ice-water, which she is now vomiting. Mind perfectly clear. Has considerable headache, which may be due to opiates. Pulse normal. Skin warm. No urine has yet been passed. I left with the promise to call again at noon.

She vomited twice after this, and with some difficulty passed several ounces of dark-colored urine. At 9.30 A. M. her husband lay down beside her on the bed to sleep. At 10.30 he was awakened by his wife, who said she felt terribly, and believed she was dying. She immediately had a severe convulsion, and never recovered consciousness. The messenger not finding me at home, a professional friend promptly responded to the summons. He found no indication of labor, and at

once proceeded to deliver the patient by manual dilatation of the os uteri. When I reached the scene, soon after eleven o'clock, she had been delivered of a female, still-born child, and was rapidly sinking. She died at 11.30 A. M.

A subsequent examination of the specimen of urine which had been saved showed a specific gravity of 1030. It was dark in color. Under the microscope no blood was found, but there were an immense number of granular casts, and a few fatty and partially hyaline ones.

The object of this report is to call attention to a premonitory symptom of puerperal convulsions not often referred to. In looking through a large number of obstetrical works contained in the Boston Medical Library I fail to find but infrequent mention of the symptom in question. Braun, Ingleby, and Winckel translated by Chadwick, incidentally mention pain in the epigastric region as among the phenomena foreboding convulsions. Thomas Denman, to whom Churchill refers, says: "Convulsions preceded by violent pain or cramp at the stomach are usually more dangerous than those which are preceded by affections of the brain only." But Chaussier, as quoted by Leishman,[1] gives the most distinct reference to the symptom under discussion as follows: "There are three symptoms [of puerperal eclampsia] which, as premonitory indications, deserve special attention: these are cephalalgia, derangements of vision, and epigastric pain. . . . The third of the premonitory symptoms of Chaussier, epigastric pain, is of less frequent occurrence than the other two. The suffering is described as being extremely severe, lasting often for hours; and, when it is of unusual severity, it is said to be an almost certain precursor of a convulsive attack."

In view of these statements, and of the case here reported, ought we not, when called to a pregnant woman suffering from severe epigastric pain not clearly arising from indigestion, to bear in mind the possibility that she is threatened with convulsions of the gravest character?

PROGRESS IN DERMATOLOGY.

BY GEORGE H. TILDEN, M. D.

CUTANEOUS PIGMENT.

In order to arrive at correct conclusions with regard to the formation and distribution of the cutaneous pigment Dr. S. Ehrmann[2] has made study of the skins of frogs and salamanders. From such investigations it is evident that the formation of pigment takes place only in the direct neighborhood of the blood-vessels, and that a necessary factor in the process is cell activity. Pigment is never manufactured in the epidermis, but is transferred to the latter from the corium, where it takes its origin, by means of currents of protoplasm. Demonstration of these facts is best given by the study of frogs. In these animals, namely, there exists under the epidermis, in the upper part of the corium, a continuous layer of movable and pigmented connective-tissue cells. Circumscribed collections of these cells are occasionally met with, however, which do not contain pigment, in which case the region of epidermis situated immediately over these cells, is pigmented to a much greater degree than the surrounding epidermis. It is manifest that the pigment has been transferred from these localized regions of the corium to the overlying epidermis, while the connective-tissue cells of the corium in which the pigment is manufactured, remain in place. The coloring matter of the epidermis is contained in the cells of the deeper layers of the rete Malpighii, which are possessed of amœboid prolongations, and also in peculiarly branched and movable cells from which extend processes between the epidermal cells. Pigment is taken up from the deepest layer of epidermal cells, and is further transmitted, partly by means of the bridges of substance which connect the epidermal cells, and also in part by the above mentioned branched amœboid cells. This transportation of pigment is carried on by currents of protoplasm from one cell to another, and is not due to the currents of fluid in the tissues. The above facts with regard to the pigment in the skins of amphibians, where the conditions are of the simplest, hold true also, with slight modifications, of the movements of pigment in the human skin and hair. With regard to the latter, the cells which form the pigment are situated in the hair papilla, in a structure, namely, which belongs to the corium. In the root of the hair are to be seen branched cells, which send their prolongations between the epidermal cells of the hair, and which are in connection with the latter. These cells take up the pigment from the hair papilla, and transmit the same to the upper portions of the hair, and the common cause of grayness of the hair is the destruction and absence of these cells. Pigment cells are contained not only in the matrix and papilla of the hair, but are also situated between the two, these intermediate cells being connected by their prolongations both with the pigment cells in the hair papilla and with the similar cells in the hair itself. Even in the case of entirely white hairs the hair papillæ always contain pigmented cells, a single exception to this rule being furnished by the condition of senile atrophy of the skin. It may, therefore, happen that in spite of uninterrupted production of pigment in the corium the hair remains white because the cells do not exist, which transfer the pigment from its seat of manufacture to the hair itself. In the case of a man, twenty-eight years of age, who was possessed of numerous white hairs, the author found that the uncolored hairs, although otherwise normal, contained none of these pigment-transferring cells, while in the colored hairs belonging to the same individual these cells were invariably present. In another man, twenty-six years of age, there coexisted with a like condition of things in the hair a well-marked and progressive vitiligo, situated mainly upon the hands and face, a connection which well illustrates the near relationship between the two processes, cavities being merely a vitiligo which is confined to the hair. In pigmented hairs, pigment cells are found in the root of the hair as well as in the hair papilla, but against the assumption that such cells wander from one position to the other is the fact that in the case of gray hairs, although typical pigment cells are present in the hair papilla, none are to be found in the root of the hair, there being at the same time no evident reason why these cells should not wander from the hair papilla into the roots of the hairs, since the tissues are normal in appearance, and in their behavior with respect to artificial coloring matters and chemical reagents the same as in pigmented hairs.

[1] Leishman's System of Midwifery, pages 640-641. Philadelphia, 1873.

[2] Allgemeine Wiener med. Zeitung, No. 29, 1884.

The formation and disappearance of pigment in the skin follows the same general laws as in the hair. Congenital albinism or deficiency of pigment in all the tissues of the body is not to be classed with the above instances of partial want of pigment, inasmuch as it is here not a question of insufficient transfer of pigment, but rather of a total and universal lack of cells, whose function it is to manufacture pigment. The difference between vitiligo and albinism is the same as that between spotted animals and albinos of the same species. In vitiligo, pigment is formed in the corium, but is not transferred to the epidermis because the peculiar pigment transferring cells are, for some reason or other, wanting in the epidermis. In spotted animals the process is analogous, and may be regarded as a physiological vitiligo. The pigment which is formed in the corium in cases of vitiligo does not remain there, but is in a great measure reabsorbed, while a certain portion of it is transferred to the immediate vicinity, and is taken up by the neighboring cells in the epidermis, and it is for this reason that the vicinity of a patch of vitiligo is more strongly pigmented than normal. By reason of the facts that in regions affected by vitiligo the pigment-transferring cells in the epidermal layers of the skin are wanting, and that the epidermal structures of themselves do not form pigment, the hairs which are situated in the diseased portions of skin are also devoid of pigment. If a spot of vitiligo be subjected to the action of a vesicant, there ensues pigmentation, which, however, entirely disappears in a short time. In such case the cells of the corium, being stimulated thereto by the action of the vesicant, form pigment, which is in a short time reabsorbed, since the cells of the corium, although competent to produce pigment, are not capable of retaining it, and since the cells which should transfer it from the corium to the epidermis are wanting. If, on the other hand, a normal region of skin is irritated by means of a blister oftentimes this portion of skin may be recognized long afterwards by its increased amount of pigmentation, for in this instance the cells are present which transfer pigment to the epidermis, where it is preserved for a long time. The cause of the destruction or absence of these peculiar pigment-carrying cells in cases of vitiligo and in canities is entirely unknown.

Dr. Gustav Riehl[1] also publishes a contribution to the study of the pigment in human hair. The numerous variations in the color of human hair are essentially dependent upon the differing amounts of pigment contained in the horny substance of the hair, other conditions, such as the individual color of the epidermal cells of the hair, the quantity of fatty sebaceous matter upon its surface, and the amount of air contained within the hair, being of comparative unimportance in this connection. Cross sections through the hair papilla at its point of greatest circumference show that there are present, in the tissues of the papilla, irregularly-shaped cells containing granular and deeply-pigmented protoplasm, and without well-marked nuclei. Some of these cells are round, others spindle shaped, while many are possessed of exceedingly irregular outline. They also differ from one another in the quantity of coloring matter they contain, and occasionally in the same cell, one end may be seen to be more strongly pigmented than the other. These pigment cells are also situated directly beneath the matrix of the hair, being in contact with the same, and in thin sections it may be demonstrated that filiform, bulbous, or wedge-shaped prolongations of these pigment cells are inserted between the cells which compose the root of the hair. Not unfrequently these processes or branches are as long as the combined diameters of three or four cells, and extend beyond the cells of the matrix of the hair to those situated immediately above. Occasionally pigment cells are met with whose body is of very small size, from which several prolongations of very irregular form and dimension insinuate themselves in the interstices between the epithelial cells. If examination of the hair be made further up, at the region, for example, in which Huxley's layer is undergoing the change into horny substance, only small fragments of these pigment cells or their prolongations, in the shape of short pigmented filaments, are to be detected between the cells of the hair, while at the same time pigment is to be seen in the protoplasm of the epithelial hair cells, the nuclei of the same being entirely wanting in pigment. The coloring matter is in the form of fine granules, which are thickly clustered about the nucleus, and but loosely and irregularly distributed throughout the rest of the cell. In the older cells of the hair the pigment is more diffused, with here and there a clump of pigment granules, the coloring matter being intimately mingled with the horny substance of the cells, which is thereby stained, as it were. The manner in which pigment is transferred from the pigment cells to the epithelial cells is shown by thin sections of hair, in which it may often be seen that the prolongations from such pigment cells are sharply defined until they reach the epithelial cells, at which point their distinctness of outline is lost, and the end which is in contact with an epithelial cell acquires a vagueness of contour which obscures its recognition. The protoplasm of the epithelial cells in the neighborhood of these prolongations of the pigment cells becomes of a uniform yellowish-brown color, and contains collections of pigment granules, which are grouped together in that portion of the cell situated nearest to the end of such prolongations, giving one the impression as if the pigment tissue had become melted and was imbibed by the epithelial cells. The process resembles that by which the lower amœboid organisms take up granules of coloring matter from the water in which they are contained. Whether the protoplasm as well as the pigment of the pigment cells is absorbed by the epithelial cells is not evident, as the author has not yet been able to detect either decolorized pigment cells or free pigment between the epithelial cells of the hair. The author concludes that the pigment of hair is always contained in the cells, being situated in the wandering pigment cells of the papilla and root of the hair, and, in other regions of the hair, in the epithelial cells themselves.

[1] Vierteljahresschrift für Derm. und Syph., Heft 1 u. 2, 1884.

DERMATOSIS DIABETICA.

Kaposi[2] reports a rare case of "gangrena diabetica bullosa serpiginosa" occurring in a woman fifty-one years of age. About one month before she was seen by Kaposi there began to show themselves upon the leg cutaneous lesions of a gangrenous nature. The initial form of the above lesions consisted in one or more blebs, tensely filled with an opaque fluid, and upon removal of the epidermal covering of these blebs it was evident that their base was formed of a yellowish white slough in the corium. Further development

[2] Wiener med. Wochenschrift, Nos. 1, 2, 3, and 4, 1884, and Medecinischer Jahrbücher, Heft 1, 1884.

of the pathological process resulted in the formation of large spots of cutaneous necrosis, in which were manifest three distinct stages of progress. The gangrenous lesions were of rounded, triangular shape, and at their convex side, in which direction the pathological process was advancing, the tissues were in a condition of dry gangrene, the skin being mummified, of a leathery consistence, and sunken somewhat below the general cutaneous level. The edge of this mummified region was not in immediate contact with sound skin, but was separated from it by a narrow and flabby fringe of discolored epidermis which had been raised from its bed by serous exudation. In the centre of the lesion the gangrene was of the moist variety, the cutaneous tissues being reduced to a greenish pulp, and on the concave side of the lesion, bordering upon the moist gangrene, were lively red and profusely suppurating granulations, the edge of which was defined by a sharply-marked line of normal skin, not elevated, and having a narrow, bluish-white border of young and advancing epidermis. The process was, therefore, one of destruction followed by repair. There were three such gangrenous lesions upon the left lower leg, the largest of which was larger than the palm of the hand, the smallest the size of a thaler. They were situated, one just below and outward from the anterior superior spine of the tibia, another at about the middle of the leg on the inner side, and the third at the middle of the leg on the anterior and outer side. Their convex edges were directed away from the anterior middle line of the limb, and upon the region of skin which was inclosed, so to speak, by the three lesions, were situated from ten to fifteen blebs, each one the size of a bean. The general surface of the skin between the blebs and around the gangrenous spots was entirely normal in appearance.

The case in question had nothing in common with the ordinary forms of gangrene of one or both lower extremities. In senile gangrene, in gangrene due to marasmus, and in death of tissue caused by embolism or thrombosis of the blood-vessels, the process begins in the toes and their neighborhood, and is preceded by a gradual or sudden lowering of the temperature of the parts and by inflammatory processes. The cessation of the circulation from some cause or another is in these cases the determining condition, and the arrest of blood supply is generally announced by inflammatory and congestive phenomena, while the necrosis which follows attacks without distinction all the tissues "en masse," the skin, muscles, tendons, and bones. The same is true of the interesting variety of gangrene due to endarteritis obliterans, which has been observed and described by Winiwarter and Billroth. Gangrene as the result of mechanical violence, chemical insult, or extremes of temperature was out of the question. The forms of cutaneous gangrene occasionally seen by the author, in connection with pityriasis rubra, chronic general eczema, severe psoriasis, and pemphigus, were all situated upon a diffusely reddened and thickened skin, whereas in the case described the bridges and islands of skin between the blebs and gangrenous spots were entirely normal, being pale and supple, the necrotic lesions occurring upon previously sound skin. The entire absence of any symptoms, subjective or objective, from the side of the nervous system, excluded from consideration any of the tropho-neurotic varieties of gangrene, and after having convinced himself by physical examination that there was no reason for suspecting atheromatous change in the blood-vessels, the author came to the conclusion, that the cutaneous gangrene in this case was due to the presence in the tissues of some foreign substance, possibly sugar. The patient suffered neither from polyuria nor polydipsia, but an examination of the urine by Professor Ludwig showed the presence of sugar in the quantity of 5.15 per cent.

Under suitable treatment the amount of sugar contained in the urine became very much diminished, and the pathological process in the skin was arrested, so much so, that all the necrosed tissues were cast off and cicatrization began. Relief was only temporary, however, and the patient died six months after the beginning of her malady, cutaneous gangrene reappearing with renewed vigor, about two months before death.

The author discusses the following varieties of cutaneous disease, to which diabetes may bear a causal relation: —

(1.) Anidrosis or asteatosis cutis (Xerosis).
(2.) Pruritus cutaneus.
(3.) Urticaria chronica papulosa.
(4.) Acne cachecticorum.
(5.) Roseola and erythema.
(6.) Eczema (more especially eczema genitalium, balanitis, vulvitis, mycotica, furunculosa, and gangrenosa.)
(7.) Paronychia diabetica.
(8.) Furunculosis and carbuncle.
(9.) Gangræna cutis.
(10.) Papillomatosis diabetica.

All the different varieties of dermatosis diabetica have a common cause, the presence, namely, of sugar in the cutaneous tissues. This is found in all the tissues, exudations, and secretions of diabetic patients, and its presence was demonstrated in pus from the case reported. The irritation set up by the sugar itself or by one of its products of decomposition, affects sometimes the sensory nerves, in this way causing pruritus, in other cases the secretory and vaso-motor nerves are acted upon, thus giving rise to anidrosis, asteatosis or urticaria, and finally, inflammatory changes may be set up by direct irritation of the blood-vessels and cutaneous tissues. As a rule in these cases the tissues manifest only slight tendency to inflammatory proliferation, but on the contrary are prone to undergo necrobiosis.

TREATMENT OF LUPUS.

Doutrelepont[1] is a firm believer in the tuberculous nature of lupus, and is of the opinion that this disease should be ranked with the chronic infectious maladies of the skin. With the idea of killing the bacillus, which he considers to be the cause of the disease, he has treated lupus by the application of corrosive sublimate. Compresses soaked in a solution of corrosive sublimate were applied to the diseased regions of skin, covered with gutta-percha paper, and secured in place by a bandage. Beginning with a solution of bichloride of mercury, of a strength of one part to 20,000, it was soon found that a solution of one tenth of one per cent. was well borne, and followed by no untoward consequences. It was seldom that a dressing of the latter strength caused any pain, and under its application fungous granulations became levelled and disappeared. Suppuration was much diminished, and cicatrization at the borders of ulceration soon became manifest. The

[1] Monatshefte für prak. Derm., No. 1, 1884.

diseased regions which had not ulcerated and were still covered with epidermis became softened and in part cast off, while the tubercles and nodules peculiar to the disease disappeared. Thickened and infiltrated portions of the skin became more flexible and less reddened, while the neighboring and healthy regions of skin were in no way irritated or inflamed, but, on the contrary, the surrounding cutaneous hyperæmia diminished, and the only effect produced upon sound skin was to cause moderate desquamation. The resulting cicatrices were smooth, and under this form of treatment an advance of the pathological process was not observed. In no case did salivation occur. A modification of the above treatment was adopted in some cases by Doutrelepont, in which the application of corrosive sublimate was preceded by scraping with the sharp spoon.

Unna,[1] likewise inspired by the conviction that lupus is cutaneous tuberculosis, strongly recommends the use of corrosive sublimate in the treatment of this disease. The best manner of application he considers to be in the form of a plaster, containing for each part of corrosive sublimate ten portions of sulphoichthyolate of potash. The part played by the sulphoichthyolate of potash in this method of treatment is to counteract the keratolytic (epidermis loosening) action of the corrosive sublimate, and thus insure a more rapid healing. Six cases of lupus have been treated in this way by Unna, each one with good result.

Schulz,[2] also with bactericidal intent, has for the last ten years treated lupus by the application of a saturated solution of permanganate of potash in cold water. Such a solution is painted over the diseased regions of skin daily, or every other day, until a thin, black crust is formed. An ointment containing five per cent. of permanganate of potash or simple ointment, according to the sensitiveness of the skin, is applied upon the days when the solution of permanganate of potash is not employed. After several repeated applications of the latter at one sitting there ensue a moderate amount of pain and some redness of the surrounding skin. The lupus nodules are, so to speak, loosened by this method of treatment, and after each sitting portions of diseased tissue may be wiped out with a bunch of cotton. The above treatment is continued for a long time after the destruction of the nodules peculiar to the disease, and at the same time the sound skin in the vicinity is also subjected to vigorous painting with the same solution. The defects of tissue heal slowly from below, and there ensues a flat, red scar, which, under continued treatment, becomes paler, and finally so resembles the normal skin in color that the formerly diseased region is only to be detected by careful examination. There is no disfiguring loss of substance, and the pathological process is arrested. Relapses are uncommon, and are always easily controlled by renewed treatment. In some instances before the application of the permanganate of potash the lupus nodules were removed with the sharp spoon, the effect of which was to increase the pain, but shorten the duration of treatment. The length of time necessary for the cure of outpatients by this method of treatment is stated by the writer to be from eight to ten weeks.

Schwimmer[3] has treated lupus by the application of an ointment containing from ten to fifteen per cent. of pyrogallic acid followed by ung. hydrarg. Upon the entrance of the patients to the hospital all crusts and scales were removed from the diseased regions of skin by the liberal use of vaseline. There was then applied to the whole of the diseased surface a salve containing ten per cent. of pyrogallic acid. This dressing was retained for from four to six days, being renewed two or three times in every twenty-four hours. At the end of this time the face was again anointed with vaseline for a day, and the diseased surface was then covered with mercurial plaster, which was kept continuously applied, the frequency of its renewal being determined by the amount of suppuration present. Cicatrization was almost complete by the end of from ten days to two weeks, although there usually remained behind several nodules, which were visible in the forming cicatrix. In such cases the application of pyrogallic acid was renewed, to be again followed by mercurial plaster. Occasionally the second application of pyrogallic acid caused much pain, in which case it was replaced immediately by the mercurial plaster. In certain cases in which the skin was indolent and tolerant of treatment as many as three such cycles of treatment were employed, but more than this number was never found to be necessary. The mercurial plaster was always kept applied until cicatrization was complete. Of ten cases of lupus treated in this manner the results in eight were eminently satisfactory, and the average duration of treatment was about eleven weeks.

[1] Monatshefte für prak. Derm., Nos. 2 u. 3, 1884.
[2] Allgemeine med. Central Zeitung, No. 53, 1884.
[3] Wiener med. Wochenschrift, Nos. 20, 21, and 22, 1884.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M. D., SECRETARY.

OCTOBER 27, 1884. The President, DR. CHARLES D. HOMANS, in the chair.

CYSTIN IN URINE.

In the unavoidable absence of DR. W. C. B. FIFIELD the following notes of his case were read by DR. E. G. CUTLER: —

W. S., aged twenty-two years. Born in Scotland. Came to this country in April, 1884. About five years ago, being then seventeen years old, had an attack of frequent and painful micturition. When the desire to pass water was felt it had to be attended to or the pain became doubly severe. This condition of affairs had soon disappeared, and he had felt perfectly well until September 27th of the present year. Being then away on a vacation, he was seized with a peculiar pain in the left flank, very sudden in its attack. On the following day (Sunday) the pain continued, but water was freely passed until the next (Monday) morning. Then pain beyond endurance was experienced on making water. The pain was felt in the penis during micturition, but when the act was accomplished it vanished for the moment. He was obliged to urinate every hour and a half for six hours. When I saw the patient he described his urine as coming in gusts, as though when passing it was interrupted by blasts of air. Fluid extract of buchu was prescribed, and by the following night all symptoms had passed away.

DR. E. G. CUTLER said that in examining the urine Dr. Fifield met with certain crystals in the sediment,

and not readily determining their nature brought the specimen to him. The crystals were flat, six-sided, colorless plates, which dissolved on the addition of nitric acid, and on heating left a brownish-colored mass, which did not give the murexid reaction of uric acid when treated with ammonia. The rest of the crystals were collected, dissolved, and reprecipitated by acetic acid. The crystals then were determined to be cystin. The remaining portion of the urine was allowed to undergo the acid fermentation, when more cystin crystals were deposited. Cystin is a substance rich in sulphur, and readily splits up, giving rise to sulphuretted hydrogen. It is not known where cystin is produced in the body, but it has been found once in the kidneys and once in the liver; also in the sweat. The only danger arises from the liability to the formation of calculi. The disease appears chiefly in the male, in the proportion of two or three to one, and infants and young adults are the persons chiefly affected; it rarely or never has been seen after the age of fifty.

Through the kindness of Dr. Wood the dried crystals of cystin were shown under the microscope. A specimen of the above urine was obtained a couple of days ago, and found to be free from albumen, pus, or any organic matter except cystin. This urine had, at the time of the meeting, undergone decomposition with the development of sulphuretted hydrogen.

DR. E. S. WOOD spoke as follows: When cystinuria occurs the crystals are almost always found in the sediment, and are easy to distinguish if the following points are remembered, namely: that cystin crystals are colorless, and occur in the form of hexagonal plates, which sometimes show lines radiating from the centre, or in prisms; that these crystals are soluble in hydrochloric acid or other mineral acids, in the fixed alkaline hydrates and carbonates, and in ammonia, but are insoluble in acetic acid, by which cystin may be precipitated from the urine when it exists in solution. It differs, therefore, from hexagonal or prismatic crystals of uric acid in color, the latter being more or less deeply colored, and in solubility, the uric acid being insoluble in hydrochloric acid, while cystin is soluble.

Cystin contains twenty-six per cent. of sulphur, and readily undergoes decomposition in urine which has become ammoniacal, sulphuretted hydrogen being one of the products of the decomposition, hence the strong odor of this gas which this specimen of Dr. Cutler's possesses.

Cystin is also sometimes eliminated by other glands, as the sweat glands, and may then become decomposed and evolve sulphuretted hydrogen, in which case it causes silver coins in the pocket to become black, a fact which should always lead to the examination of the urine for cystin.

He also said that although the fixed alkaline carbonates dissolve cystin, these should never be used as drugs in the treatment, since they may cause a deposit of earthy phosphates to form around the cystin concretion as a nucleus.

DR. E. G. CUTLER reported a case of

DOUBLE PNEUMONIA IN A MAN WITH SLIGHT AORTIC STENOSIS OF LONG STANDING AND POSSIBLE ATHEROMA OF THE CORONARY ARTERIES. RECOVERY.

In October, 1883, I was suddenly called to see Mr. P., seventy-two years of age, a large, stout man who had for many years suffered from some form of heart disease following rheumatism, and had been told ten years before by his attending physician that he might die at any moment. He was found to be suffering great pain in the cardiac region, brought on apparently by a little over-exertion. This was the second very severe attack he had had, though there had been numerous slighter ones for a long time, apparently due to the same cause. At times he had been dizzy, but had never fallen, though frequently obliged on such occasions to sit down. The pain often extended through the back, and was of a sharp, agonizing character. Going up a flight of stairs caused dyspnœa, and was likely to bring on the pain.

Physical examination gave a very feeble cardiac impulse in the fourth intercostal space just outside the nipple. The percussion area of dullness was a little increased. The cardiac sounds were rather feeble, heard loudest at the apex on the fifth rib, just outside the nipple. There was a systolic murmur heard loudest at the apex and not propagated to the left, and an aortic direct murmur followed into the carotids and not succeeded by a distinct second sound. There was accentuation of the pulmonic second sound and slight enlargement of the right side of the heart. The pulse at the wrist was powerful, 60 to 70 in the minute, and regular. The recumbent position was impossible on account of dyspnœa.

Half grain doses of morphia by the mouth were required for a few days to ease the patient. With tincture of chloride of iron and wine of coca the man was as well as usual in two weeks. The pulse remained 64 to 66 in the minute, the physical signs were the same, the mitral murmur was recorded as slight, and there were several attacks of sudden dizziness during the next month, when the patient passed from observation. A diagnosis of slight stenosis of the aortic orifice was made, with possibly atheromatous coronary arteries which was cause of pain. For the next three months the patient was not seen.

On January 20, 1884, I was again called, and found that he had suffered from a bad cold for a week past, attended with cough and expectoration, but no fever. At noon that day he had suddenly been seized with pain in the left side under and below the nipple, which caused the respiration to be suppressed. The face was very red, the skin hot; pulse 120 in the minute, temperature 103.5° F. On physical examination merely general coarse mucous râles and percussion resonance all over the chest were found. The respirations were thirty-two in the minute. There were slight cough and slight expectoration. At night the pulse and temperature were considerably higher, otherwise the condition was the same. Dyspnœa was very marked. Cough troublesome and frequent.

The next day the cough was a little less frequent, expectoration more abundant and extremely sticky. Some sleep had been procured by means of morphia.

The following day rusty sputa were observed. The pulse, temperature, and respiration had all along remained high, and the dyspnœa and cyanosis had increased. The physical examination of the chest gave coarse râles and undiminished resonance till the 23d, when at my first visit I found a pulse of 105, a temperature of 104.5° F., and beginning flatness at the lower angle of the scapula and bronchial respiration. These physical signs increased in area till they occupied the entire lower lobe. The pulse then rapidly fell to 98, temperature to 99° F., and the respiration to 26.

Resolution began thirty-six hours after the consolidation was observed, and went on with intermissions for the next three days, when it was nearly complete, leaving the patient very weak.

During the succeeding night there was a sudden pain in the right side, a great accession of dyspnœa, cough, and temperature, and, on being hastily summoned, I found to my dismay that the same thing was beginning on the right side at the root of the lower lobe. It hardly seemed possible that the patient could survive this new attack. But a relatively small portion of the lower lobe of the right lung became involved, however (certainly not more than half). The process of resolution began at the end of the second day and ended in less than a week. In the mean time the physical signs had increased again in the left so that it was not till the 5th of February that all signs had disappeared in the right and nearly so in the left lung. On the 10th of March he was well enough to be allowed to walk out in the sunlight for a short time in the middle of pleasant days.

The treatment consisted of alcoholic stimulants, morphia, quinine, and ipecacuanha at first. During the great dyspnœa, as ordinary food seemed to increase his distress, he was given peptonized liquids, and poultices of bran mixed with red pepper and mustard were applied.

It was eighteen days before every physical sign of pneumonia disappeared.

DR. CUTLER also reported a case of

PNEUMONIA COMPLICATING CHRONIC ENDOCARDITIS AND ACUTE PERICARDITIS.

In February, 1884, Charles K., aged twelve, came under my charge with severe acute articular rheumatism. A mitral systolic murmur developed, and after an illness of several weeks he was left with a seriously impaired heart. During the past summer he has been unable to do much except slowly walk about at the sea-shore. At this time the cardiac area of flatness extended nearly one inch to the right of the sternum in the third intercostal space. The upper border of flatness began at the second rib and extended below to the fifth interspace, one inch outside the nipple. A loud systolic murmur was heard, most distinct at the apex, propagated towards the left, and audible in the back. Extra exertion was not possible, and the patient appeared quite anæmic. Swelling of the feet occurred several times, but disappeared.

October 19th I was called as the patient had suffered from pain in the legs, and had been feverish for the past three days or more. There was much pain, redness, and swelling of the right knee and wrist, and below left nipple, and some pain in the left shoulder. The temperature was 103.5° F., the pulse 120, respiration 35, and catching. That night, in addition, pain in the præcordia was complained of, the respiration was very labored, and dyspnœa great; patient had to sit erect the whole time. As my attention was attracted to the rheumatism chiefly, and it gave such pain to move him, I had examined the heart alone, and did not attempt to see what was the condition of the lung. The next morning a marked friction sound was found at the base of the heart, which quickly spread all over the cardiac area. Consolidation of the left lower lobe was found, with bronchial breathing and flatness on percussion. The dyspnœa was excessive, and the patient's mother sat holding him up with a pillow all that day and most of the succeeding night. On the 23d the whole lobe was solid, and the patient was found to be decidedly easier. The extent of pericardiac distention must have been great at the height of the disease, but its boundaries could not be accurately determined because of the pain caused by percussion. Until the 26th the pericardial friction sound has masked all cardiac sounds heard in front. The bronchial respiration and flatness of the lower lobe continue, but beginning moist râles are to-day found in the middle of the left back. The patient has a respiration of about 26 to the minute; the temperature is 100.2° F. He feels fairly comfortable, though for the past two nights he has had two rather severe suffocative attacks.

(November 4, 1884. The condition remains essentially the same as at last report. Several very severe attacks of rheumatic pain have occurred in the joints accompanied by high fever. The lung is still solid, and loud bronchial breathing is heard throughout the greater part of the left chest.)

DR. F. C. SHATTUCK expressed his deep interest in Dr. Cutler's paper, which emphasizes so pointedly the fact that a patient with organic disease of the heart may not only live many years in comfort, but also be able to withstand such a serious disease as pneumonia. The two cases of mitral disease are especially noteworthy in this latter respect by reason of the great strain thrown on the already burdened right side of the heart by the pulmonary consolidation. In the case of the old gentleman it would seem that the murmur heard at the base and propagated into the carotid must have been due rather to roughening at or near the aortic orifice than to actual stenosis. The physical signs do not indicate such an increase in the power of the left ventricle as is characteristic of aortic constriction in a state of fair compensation. In this condition the capacity of the ventricle and consequently the size of the heart is apt, other things being equal, to be less increased than in aortic regurgitation, in which the cavity receives supplies of blood from two sources at once while relaxing in diastole; but compensation implies a powerful muscle to overcome the obstruction to the blood current. Physicians generally take a far less hopeless view of valvular heart disease than they formerly did, and patients are reaping the benefits of the change.

DR. S. L. ABBOT remarked that the last speaker had anticipated him in speaking of the importance of using great caution in communicating to a patient any evidence which a physician might detect of cardiac disease, especially where the consciousness of the patient had not excited apprehension of any such trouble. The announcement of any organic trouble of this kind was regarded by most people as a sentence to sudden death. Of course it was not necessary before this Society to say that in a majority of such cases death followed a longer or shorter condition of invalidism, and was not instantaneous. The gentlemen present who had made examinations for life insurance must have had occasion, as he had done in a limited experience of this kind, to detect valvular murmurs which had not been associated with any subjective symptoms whatever. The announcement of such a discovery, unless circumstances made it absolutely necessary, he thought should be avoided if possible, or the nature of the trouble detected communicated in such a way as to avoid the terrible construction which most people put

upon it. Instances are not uncommon, as of course was well known to the gentlemen present, in which such a murmur, even when supposed to be due to organic cause, subsequently disappeared, or, if it continued, was only followed after a long interval, if ever, by serious discomfort to the patient, and which did not terminate in sudden death. He instanced a case of a patient now in perfect health so far as the heart is concerned, who, years ago, was thrown into a state of great alarm, as well as all the members of the family, by the announcement of the existence of heart disease, based on the discovery by the family physician of a slight aortic souffle. The patient was a lady in delicate health, of highly nervous organization. Not a trace of this murmur has existed now for ten or twelve years. In another recent instance similar alarm has been excited by the announcement of valvular disease of the heart to a lady, of his acquaintance, in whom no marked evidence of cardiac disability had shown itself, at least not enough to excite any apprehension of organic disease on the part of the patient or her friends, who all now feel that she may fall dead at any moment. Such an apprehension is hard to remove by any explanation, and he feared that too often physicians in their conscientious desire for accuracy of diagnosis in such cases were led into statements which conveyed a more serious meaning than they appreciated or than the indications justified.

DR. F. W. GOSS reported

A FATAL CASE OF PUERPERAL CONVULSIONS PRECEDED BY EXCESSIVE EPIGASTRIC PAIN.[1]

DR. C. M. GREEN said that since hearing of Dr. Goss's case he had searched for the literature of the subject, but without finding other cases than those mentioned by the reader. The description by Leishman is most vivid. He suggested that elimination of urea by the stomach might give rise to gastralgia.

DR. O. W. DOE said he had listened with great interest to Dr. Goss's paper, as it recalled a similar case occurring in his own practice. The patient, a primipara, thirty-two years of age, had a very easy confinement with twins. There had been no symptoms suggesting renal trouble either before, during, or directly after labor, which took place at about two A. M. At noon she began to complain of severe epigastric pain, which steadily increased, and at five P. M. she had a bad convulsion. Others followed in rapid succession, and she died at about eleven P. M., never having regained her consciousness after the first convulsion. He saw her at noon, when she first began to complain of pain, but considered it as arising from indigestion, and advised simple remedies accordingly.

DR. ABBOT said that the case reported and the supposed significance of gastralgia as a precursor of convulsions, brought to his mind the case of a lady in his practice, who in two successive pregnancies had suffered from this symptom even in a more marked degree than in Dr. Goss's patient, but without convulsions. She was at the eighth month of pregnancy, and in the absence of her physician Dr. Abbot was called. She had been suffering for some weeks from a pain at the epigastrium, which at first had been regarded as due to indigestion, and was treated as such. No relief had been obtained, and of late the symptom had increased in severity and frequency. During five days it had increased so as to amount to agony, causing great dyspnœa from interference with the movements of the diaphragm, coming on in paroxysms of some minutes' duration, and recurring at shorter and shorter intervals, sometimes as short as fifteen minutes. In degree it could only be compared to that of the severest labor pains. The urine was loaded with albumen, but of a specific gravity of 1028. The case had now become very urgent, calling for relief by premature delivery. This it was decided, on consultation with Dr. Storer, to produce. On making examination it was found that the process was already beginning, the os being dilated to the size of a quarter of a dollar. So intense, however, was the gastralgia that these pains had not been noticed by the patient. Active labor set in in a few hours, and the child was born living in about eleven hours after the commencement of the labor was detected. During this time there was no headache, and the gastralgia disappeared as the labor progressed and did not return. Albumen disappeared rapidly from the urine after the birth of the child, and a large amount of uric acid crystals with some fragments of gravel came away. During convalescence the patient suffered much from temporal and facial neuralgia. The child lived but a few hours.

Three years and a half afterward the patient went through a repetition of her experience in a subsequent pregnancy. The symptoms were, if anything, more severe than on the first occasion. The labor was premature, spontaneous, at the seventh month. There had been the same agonizing gastralgia as on the previous occasion, and for five months, as was afterwards learned, the patient had not been able to lie on her back with comfort on account of pain through the kidneys. The labor was short, only one hour and a half. Gastralgia, however, only subsided gradually after the birth of the child, requiring treatment for some days. The urine after the labor was scanty, loaded with uric acid, and contained much albumen and abundant casts; specific gravity 1014. She was nearly blind, being unable to recognize the features of a person by her bed-side until the third day after confinement. There was also much renal pain. For two weeks she suffered much from neuralgia in various places, and sight was fully restored only after some weeks. There was no head ache during labor or the blind period following, nor were there any convulsions at any time. The patient made a good recovery, the kidneys gradually returning to a normal condition. She has since been in perfect health, but she has not been again pregnant.

DR. J. P. REYNOLDS said: It did not seem to him that we need assign a special cause for the epigastric cramp. In the presence of the central nervous disturbance which is impending, severe localized pain is set up. That which is so well recognized on one or the other side of the head is one instance of this; the epigastric agony is another. While listening to the remarks of the last speakers he had recalled a fatal case of eclampsia, in a multipara, in which there were two convulsions separated by an interval of three or four hours; and during that interval the burden of the patient's constant complaint was pain over the uterus, from which a fœtus of six and a half months had been expelled. In this instance a most interesting autopsy showed both kidneys enormously swollen, engorged with blood, as in some specimens of acute scarlatinous nephritis.

The Society is under especial obligations to the reader for reporting these rare and interesting symptoms; and it is still more indebted to him and to Dr.

[1] See page 464 of this number of the JOURNAL.

Green for their careful investigation of the scanty literature of the subject. We shall all be set upon the watch for other similar cases.

OPHTHALMIC SYMPTOMS ACCOMPANYING IMPETIGO HERPETIFORMIS.

DR. F. B. GREENOUGH said that he had seen a case of skin disease on the face and side of the head, of a girl aged seven, that seemed interesting to him on account of the accompanying ophthalmic symptoms. The patient, by the report of her mother, an intelligent woman apparently, showed an impetiginous eruption about forty-eight hours before she was seen. At the time of visit there was a round patch on the right temporal region, just above the zygomatic process, nearly the size of a silver quarter of a dollar, covered with a yellowish honeylike crust, not surrounded by an areola of inflammation; another irregularly shaped and larger one above and behind the right ear, not extending outside of the hair, and a third one, oval in contour, about the size of a pigeon's egg, on the dorsum of the right hand. The pupil of the right eye was dilated so that the amount of the iris seen was not more than a line in thickness. The conjunctiva was not injected, and the other pupil was normal, reacting to light perfectly. The child was unable to give any intelligent account of her feelings as to the existence of pain, etc., nor could anything be decided as to vision.

The mother insisted that the only thing that had been applied to the eruption was some fresh lard, and denied the possibility of any atropine or belladonna having got into the eye.

The case was evidently not one of zoster, the character of the efflorescence being entirely different. It was, however, different from an ordinary case of impetigo, and was one of several that Dr. Greenough had seen in children recently, which he thought had been described as impetigo herpetiformis. Even if, however, the eruption had been a typical zoster, he thought the simple dilatation of the pupil without any symptoms of congestion, as shown by the perfectly normal conjunctiva, would be extraordinary, as in all the cases of zoster which he had seen in the region of the superior branch of the fifth pair, the affection of the vaso-motor filaments was manifested by decided ophthalmic inflammation, that is to say, where any ophthalmic symptoms existed. The mother stated that when she first saw the child, on the morning of visit, the right pupil was very much contracted.

DR. H. W. WILLIAMS said, in reply to a question by Dr. Greenough, that more or less of conjunctivitis, with disposition to corneal ulceration, is a common accompaniment of herpes zoster frontalis; as is also dilatation of the pupil; and when these conditions precede the appearance of the herpetic eruption they may give rise to the supposition that atropia or belladonna has been applied to the eye.

— An epic poem by Dr. F. W. Weber, a medical practitioner resident at Lippespringe, a health resort of N. W. Germany, entitled *Dreizehn Linden*, is spoken of by the English *Spectator* as the most important contribution made to the poetical literature of Germany since the days of Heine. Its scene is laid among the Saxons and Franks in the period following the death of Charlemagne.

Recent Literature.

A Treatise on Physiology and Hygiene. By JOSEPH C. HUTCHISON, M. D., LL. D. New York: Clark & Maynard. 1884. 319 pages.

This book, "for educational institutions and general readers," has reached the stage of being a "revised edition," and the circular of the publishers assures us that the youth of many cities are busily engaged in learning from it important hygienic lessons. If they are fortunate in having teachers well enough versed in physiological knowledge to bring in the not infrequently necessary corrections such lessons may be profitable, for the book contains much that is commendable in matter and in arrangement. The treatment of alcohol and tobacco is rather didactic, leaving the student to explain to himself why the older male members of the family have not become driveling idiots or afflicted with various complicated and wasting diseases. There is a chapter on the use of the microscope, but of the briefest and most meagre description. A longish appendix treats of poisons and emergency matters in a way to require much supplementary explanation and qualification from the competent teacher.

The illustrations of the Treatise are generally good and well printed; we have been unable, however, to decide whether the young woman, whose tight lacing furnished Fig. 5 (page 20), had only eleven ribs in the right half of her thorax.

A Practical Treatise on Surgical Diagnosis. By AMBROSE L. RANNEY, A. M., M. D. Third Edition. Wm. R. Wood, Publisher. 1884.

The appearance of a third edition of Ranney's Surgical Diagnosis within five years of the original work attests the popularity which it has acquired.

It is especially useful as a text-book and guide for students or beginners who are endeavoring to acquire a systematic habit in the investigation of disease. The present volume contains 137 more pages than the previous edition; the additional space being devoted to two new chapters upon diseases of the brain and spinal cord, in which the author treats at some length the localization of cerebral and spinal diseases.

The whole work has undergone careful revision, and is further enriched by numerous illustrations which do much to facilitate an understanding of the text.

Lectures on the Principles of Surgery. By W. H. VAN BUREN, M. D. Edited by LEWIS A. STIMSON, M. D. New York: D. Appleton & Co. 1884.

These lectures of Professor Van Buren's, beginning with the consideration of wounds and their various accompanying accidents, such as hæmorrhage, suppuration, shock, tetanus, septicæmia, pyæmia, erysipelas, etc., go on to treat of fractures, dislocations, and tumors under their more general aspects.

While the subjects are treated popularly as for presentation to a class of students, their scientific and pathological bearings are not neglected.

The book is well worth the attention of students, who will find in it vigorous statements of truths that will be constantly applicable in their future surgical work.

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ATONIC DILATATION OF THE STOMACH.

In a preceding number (October 30th) we referred to the pathogenesis of atonic dilatation of the stomach as set forth by MM. Sée and Mathieu in the *Revue de Médicine*. In a later issue[1] of the same periodical these writers develop their views in regard to the symptomatology, diagnosis, and treatment of this condition which unquestionably, though sufficiently common, is often overlooked or but ill understood. Even in the latest editions of our most approved text-books atonic dilatation of the stomach, as distinguished from dilatation the result of obstruction, is dismissed rather cursorily.

The symptoms vary considerably in the acute and chronic forms, in the earlier and later stages, but in general the muscular walls of the stomach are thin and the vomitus is free from blood, two points upon which to base a differential diagnosis as against obstructive dilatation. A reliable diagnosis can only follow repeated examinations.

The symptoms may be divided into physical and functional. The former declare themselves upon inspection, percussion, succussion, and auscultation and internal exploration; the latter — the functional symptoms — declare themselves by flatulence, pains (which may be spontaneous or provoked), vomiting, constipation, dyspepsia (deranged gastric chemistry), and general constitutional disturbance.

According to the predominance of one or another set of these symptoms, MM. Sée and Mathieu find it convenient to divide their cases into a simple class, a painful class, a class characterized by gastric repletion, and a dyspeptic class.

Inspection furnishes but little reliable information. The epigastrium may be unduly prominent or even very much distended, but the value of this symptom can only be determined by percussion. Sometimes peristaltic movements of greater or less energy can be seen through the abdominal walls. Percussion yields far more important information, but must be pursued methodically and with precision, and repeated frequently under varying conditions and positions. The vertical extent of the gastric tympany is the principal point. By percussing from several points of departure the upper border of the stomach can be determined without much difficulty, but the lower border is sometimes not made out so easily, though frequently, by percussing carefully upward from a point about midway between the pubes and the umbilicus until the small intestine is reached, and then diverging towards the border of the false ribs at the mammillary line, the line of the greater curvature may be also marked out. When difficulty is encountered the splashing sound of liquid in the stomach or of liquid introduced for the purpose may be of much assistance; and in all cases further information may be gained as to the gastric distention or distensibility by emptying the stomach with the siphon tube or by introducing effervescing mixtures. The healthy stomach and the dilated stomach both vary greatly, of course, in their size under different circumstances, — and even at times during an examination, — but these writers think one is justified in diagnosticating a *distention* when the upper and lower borders of the gastric tympany are found on a single occasion twelve to fourteen centimetres (five to six inches) apart, and a *dilatation* when that space is found constant at five or six successive examinations under varying conditions, and in various attitudes. The introduction of a sound into the stomach as a means, combined with external palpation, of determining the size of the stomach, as suggested and practiced by Leube, is not approved, and is stigmatized as highly dangerous. The gastric walls in many of these cases are certainly very thin. Succussion and splashing, as interpreted by auscultation, have a minor value among the physical signs of dilatation.

The functional symptoms when present, which is generally but not always the case, are characteristic and of themselves indicate strongly the presence of the condition. Flatulence in an extreme degree supervenes immediately after meals and persists for several hours accompanied by swelling and a sense of weight at the epigastrium. Pains springing from the epigastrium and radiating out towards the thorax, the abdomen, and the left hypochondrium supervene by crises varied by periods of vague, dull discomfort; these crises of epigastric pain are not accompanied by vomiting as is the case with the gastric crises of locomotor ataxia and with hepatic colics. Pains may also be provoked by pressure or by the ingestion of very cold or acid fermented drinks. The point of greatest tenderness is then usually just under the upper border of the false ribs on the right. Vomiting is not very frequent in moderate cases of atonic dilatation, but belongs especially to the pronounced forms where the stomach has become an inert pouch passively distended with a semi-liquid fermenting mass, and to cases with a hysterical element; in both of which classes the vomiting is not seldom attended by convulsions and tetanic phenomena, due to the dehydration of the blood and anæmia of the nervous centres. Constipation, often obstinate and alternating at long intervals with attacks of profuse diarrhœa, is a common symptom. The dyspepsia which may be absent, or may precede but generally follows atonic dilatation, is marked by bitter regurgitation and acid vomiting. In simple dilatation the digestion is often performed completely, a good appetite preserved, and scarcely any general depression is present. As for the constitu-

[1] September 10, 1884.

tional effects, it is not always easy to estimate how far they result from the ectasy and how far from the causes which produced the ectasy itself. Frequently there is a vicious circle, but sometimes a simple washing out of the viscus shows that the frontal headache, the malaise, the inaptitude for mental work, the vertigo, the fainting turns were secondary to and dependent upon the dilatation.

The treatment of these cases may be classed under two heads: the pathogenic and the symptomatic treatment. By the former one seeks to avoid or suppress the causes which provoke a dilatation, and to modify a general condition of health which give those causes a favorable opportunity to assert themselves; by the latter one palliates the annoyances of a state which there may be no hope of curing. The fact that simple dilatation is a tolerably common sequel to typhoid fever gives a clue to its mode of origin and mode of cure.

Excessive alimentation and substances causing gastric relaxation must be avoided. The motor functions of stomach and intestines must be regulated. Constipation it is of prime moment to overcome. The muscular coat of the stomach should be excited to action — by electricity if need be externally or internally. The attacks of pain should be controlled, and chloroform water does good service for this purpose except with some hysterical patients. For washing out it may be used in the proportion of one part to three of pure water — care being taken to leave very little of this mixture in the stomach, and to follow it by a second washing with plain water. Washing out with an alkaline water, such as Vichy, may also be employed to combat a dyspepsia accompanied by an excessive mucous or fermentative acid secretion.

Want of space has made it impossible to follow MM. Sée and Mathieu in all the details of their suggestive articles, which are not improved in form by a somewhat minute repetition of the points they desire to present, but we are glad to call attention to so praiseworthy an effort to elucidate a somewhat obscure and neglected pathological condition.

THE VITAL STATISTICS OF MASSACHUSETTS FOR THE YEAR 1883.[1]

WITH an estimated population of 1,985,335, in the year 1883, there were in Massachusetts 47,285 births, 18,194 marriages, and 37,748 deaths during the year, — 23.82 births, 9.16 marriages, and 19.01 deaths to each 1000 persons. For the twenty years from 1860, the birth-rate in this State is less than that of any prominent European country, and the excess of births over deaths is less than ours only in France and Hungary. The rate of natural increase of the population is less in Massachusetts in the native than in the foreign population.

There were 899 illegitimate births during the year, and 1489 still-born. Of those born alive the proportion of males to females was 106.6, the average for thirty years being 105.7. Of the still-born nearly three fifths were males. The proportion of illegitimate to legitimate births has doubled in twenty years, and 12.6 per cent. more are of native than of foreign mothers.

The marriage-rate was a trifle less than in 1882, but just above the rates for the previous years since 1874. Fourteen thousand five hundred and sixty-two bachelors married maids, and 795 married widows; 1795 widowers married maids, and 961 married widows. There were 2835 widowers married and 1835 widows. Thirty-six and eight tenths (36.8) per cent. of the males and 46.4 per cent. of the females were married between the ages of twenty and twenty-five; 32.3 per cent. of the males and 21.7 per cent. of the females between twenty-five and thirty; 12.6 per cent. of the males and 7.1 per cent. of the females between thirty and thirty-five; 1.7 per cent. of the males and 16.2 per cent. of the females under twenty. In sixteen marriages of males and twenty-five of females the age was not reported. Seven hundred and fifty-one men and 268 women were married over fifty years old; twenty men and two women over seventy-five, and six men over eighty.

There were 655 divorces granted during the year: 157 for adultery, 321 for desertion, 83 for intoxication, 29 for extreme cruelty, 50 for cruel and abusive treatment, 13 for neglect to provide. The number of marriages has increased from 12,513 in 1864 to 18,194 in 1883, the number of divorces from 270 to 655.

The death-rate per 1000 of the population (19.01) was .13 lower than that for 1882, .51 less than the rate in 1881, .21 lower than the average for the five years, and .25 lower than the mean for the thirty years previous to 1881. It has been exceeded but thirteen times since 1850.

In the third quarter of the year 28.38 per cent. of the deaths occurred; in the second, 24.65; in the first, 23.87; in the fourth, 23.10, the usual order being third, first, fourth, second.

The death-rate of males, like the birth-rate, was about six per cent. higher than for females. Under one year of age 835 more males died than females, or a percentage difference of 4.53; under the age of five this excess amounted to 4.85 per cent. Between twenty and thirty the deaths of females exceeded those of males 1.79 per cent., and of all other ages 3.05 per cent. Nineteen and nine tenths per cent. of the entire mortality occurred under one year of age, and 31.39 per cent. under five, — proportions which are very similar to those for a period of years. The ratios of infant mortality under one year and under five years were lower in 1883 than the average for twelve years; the proportions of deaths between twenty and thirty and for all other ages were higher.

The lowest average death-rate is for the ages from ten to fifteen, and is about four per 1000; next, about 6.50, from fifteen to twenty; and highest, nearly 200,

[1] Forty-second Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth, for the Year ending December 31, 1883: together with the Report relating to the Returns of Libels for Divorce for the Year 1883. Prepared under direction of the Secretary of the Commonwealth. With editorial remarks by Frank Wells, M. D. Boston: Wright & Potter Printing Co., State Printers. 1884.

under one. The average age of all persons dying has been rising in the last few years, owing to the decreased infant mortality.

From "zymotic" diseases the death-rate for 1883 was less than for any year since 1872, and 5.1 below the average for the past twelve years: —

MORTALITY FROM PROMINENT "ZYMOTIC" DISEASES.

Years	Dysentery.	Typhoid Fever.	Whooping-Cough.	Croup.	Diphtheria.	Measles.	Scarlatina.	Cholera Infantum.	Small-Pox.	Total.
1872	594	1703	363	480	273	428	1377	3254	1029	9471
1873	435	1406	294	435	310	180	1472	2553	668	7723
1874	366	1147	449	411	502	161	1382	2222	26	6706
1875	437	1059	242	689	1200	233	1684	2606	34	8175
1876	417	881	192	684	2610	47	1222	2087	31	8171
1877	580	814	369	544	2634	135	467	1927	26	7496
1878	602	679	400	583	1934	305	404	1573	2	6482
1879	372	637	302	559	1734	19	850	1949	8	5830
1880	395	882	220	625	1769	236	574	2118	38	6867
1881	360	1072	217	677	1706	230	397	1861	47	6567
1882	398	1079	265	491	1280	68	318	2159	45	6103
1883	336	869	137	530	1091	321	575	1941	5	5796

Pulmonary consumption caused 5931 deaths in 1883, as compared with 5865 in 1882, and 5886 in 1881. From cancer the deaths were 1026, or thirty-nine more than the previous year. For many years, the reported mortality from pulmonary consumption has been decreasing and from cancer increasing. There has also been a striking increase in the fatality from Bright's disease and from cerebral diseases.

In 1883 there were 3562 deaths from disorders of the brain, — 1845 males and 1717 females. Of this number, 495 males and 561 females died from paralysis; 596 males and 469 females from "cephalitis"; 412 males and 372 females from apoplexy; 87 males and 96 females from insanity; 74 males and 48 females from "softening of the brain"; 181 males and 171 females from unspecified diseases. From apoplexy and paralysis, taken together, there occurred 546 deaths between the ages of seventy and eighty; 436 between sixty and seventy; 395 over eighty; 253 between fifty and sixty; 142 between forty and fifty; 84 between thirty and forty; 74 under thirty; 18 under five. Comparing the statistics of 1883 with those for 1860, since which year there has been almost unbroken advance in the mortality from brain disorders, it will be found that there has been an increase of 156.9 per cent. in the number of such deaths, as against an estimated increase of 61.2 per cent. in the population. In the same period apoplexy has advanced 229.4 per cent. in its mortality, paralysis 162.6, and insanity 157.7 per cent. There has been an almost steady annual increase in the number of deaths from Bright's disease from 140 in 1870 to 582 in 1883, or 315.7 per cent.

The number of deaths from heart disease, bronchitis, pleurisy, peritonitis, and pneumonia remains quite high.

The various accidents of pregnancy and labor were less fatal by forty-six deaths than the twelve years average. Adding the number of deaths from puerperal fever (127) to the other fatal accidents of childbirth, the result gives, as a proportion, one death in every 145.4 labors, as compared with 140.5 in 1882, and 136.6 in 1881.

Of the violent deaths, 448 were from drowning and loss at sea, 185 from railroad accidents, 167 from suicide, 106 from burns and scalds, 76 from suffocation, 50 from heat, 39 from poison, 18 from exposure, 14 from strangulation, seven from homicide, four from freezing, four from lightning, one each from the administration of chloral and chloroform.

The report, with accompanying tables, from which we have made the above extracts, is to be had at the document room in the State House, and will well repay careful study.

CHOLERA IN PARIS.

THE presence of cholera in Paris is now known, acknowledged, and officially recognized. Sporadic cases have undoubtedly occurred through the summer, and it is probable that the reports of such which were in circulation late in June and early in July were correct. The French daily papers say that from June 20th to the first week of this month there had been 160 cases of cholera in the city with sixty deaths. There was quite a little epidemic in July at Aubervilliers, a town of 8000 inhabitants, four or five miles north of Paris, which is provided with a miracle-working picture of the Virgin, but not with good water and drainage. Now the disease seems to have established itself pretty firmly in the poor quarters of St. Antoine and Menilmoutant, and further concealment is impossible. The chief centre is said to be in a miserable little street running out of the Faubourg St. Antoine, about half-way between the Bastile Square and the Place de la Nation. In this short street there are fifty-eight rag houses and thirty-three saloons of the lowest kind.

All the daily newspapers contain telegraphic reports of the number of fresh cases and deaths since Wednesday, November 5th, but these reports are conflicting and unreliable. During the forty-eight hours from Friday morning to Saturday midnight there were reported 183 new cases and sixty-three deaths. Quite a number of cases are, probably, not reported at all to the authorities. Cases are also reported from several towns in the northern departments, from Nantes, Montreuil, St. Nazaire, and from places on the Channel near Calais.

The weather in France has been mild, foggy, and rainy. In Paris there is at present a great deal of poverty, owing to long-continued depression in business; the water supply from the Seine is hard, and predisposes to diarrhœa; the sewers are better adapted for exhibition to admiring strangers than for removing waste.

In the three first cholera epidemics, those of 1833, 1848, 1854, France and Paris were invaded from England, which in turn derived the disease from North Germany, the poison attacking Europe by land. In 1865–1866 it entered Europe at Constantinople,

and France at Marseilles, being transported, as in the present epidemic, by water, and approaching Paris from the south.

MEDICAL NOTES.

— Dr. S. Weir Mitchell records in the July number of *The American Journal of the Medical Sciences* three cases of hysteria in which there was unilateral increase in bulk at or near the menstrual period, and also at other seasons after emotional excitement, and he has been unable to find elsewhere any narration of similar cases. The writer cannot explain the causes of this phenomenon further than to say that they are under the influence of the nervous system, and vary with the causes which also increase or lessen the analgesia or give rise to chronic spasm. Most probably, he thinks, in many unilateral hysteric palsies a like phenomenon exists, and has merely escaped attention because of being the least prominent in a group of symptoms. At all events it adds another to the large group of resemblances which so closely relate organic to hysteric hemipalsy.

— Among the indictments returned last week by the grand jury for Suffolk County was one for manslaughter against Dr. Helen Cumming, of South Boston, for causing the death of Isabella B. Hill on August 1st last. Mrs. Hill at the time was visiting her friends in South Boston, and suffering with a cold, called in the defendant to prescribe for her, and in leaving medicines Dr. Cumming carelessly gave a poisonous dose of fluid extract of St. Ignatius bean, and on taking it, according to directions, Mrs. Hill only survived the first dose about three hours. This case is similar to that of one Pierce, an irregular medical practitioner of Worcester, who was convicted of manslaughter in administering kerosene oil to a patient, and which is now pending before the full bench of the Supreme Court on exceptions, and a final decision in which will be of great interest to the public.

Correspondence.

CONSERVATIVE SURGERY.

MR. EDITOR, — I wish to draw the attention of the profession to a work on surgery by Henry G. Davis, M. D., now of Newton, Mass., published by D. Appleton & Co. in 1867.

It has not received the wide recognition and credit due to it or to its distinguished author. Many of the important points brought out in this valuable work were original with Dr. Davis, and were by him first introduced to the medical profession of New York.

In this short note I purpose referring to a few of the most important and interesting points contained in the work with the hope that this volume will find its way more widely to the libraries of the general practitioner, especially those remote from the large cities, the country physician.

In the opening article on Fractures the doctor makes the broad assertion "that when adhesive plaster is applied over the bellies of muscles and extension made therefrom the effect in restraining the action of the muscle is the same as when extension is made from the bone into which the muscle is inserted." He then goes on to prove this principle, and illustrates in fracture of the patella, fracture of the processes about the elbow, and more at length in intercapsular fractures.

Then follows a discussion on "Old Dislocations," in which the old method of treatment is condemned, and a new one, the result of his own investigations, brought forward instead. This principle is contained in the three words, "continued elastic extension," and applies to all dislocations, which, Dr. Davis asserts, can be successfully reduced *without violence*. He maintains that the *continuous elastic extension* elongates the soft tissues, corrects deformities, and restores the parts to a normal condition. The same rule applies to the ligaments as well as all other tissues. Length of time that a dislocation has existed does not debar a successful issue by his method of treatment.

Dr. Davis applies his treatment upon the principle above set forth successfully in congenital dislocations as well as those following traumatic injury. In morbus coxarius and diseases of other joints he claims to be equally successful, and in all he illustrates by plates and diagrams as well as clearly worded descriptions of his methods and appliances.

The advantages of *continued elastic extension* the doctor considers to be twofold: first, the gradual overcoming of the contraction of muscular tissues, and second, the lengthening of all the shortened tissues. This is effected by the new material deposited, which, being in a plastic state, must necessarily be longer when organized than the old, whether that be muscle, tendon, or ligament, and thereby the tendency to contraction or shortening be remedied.

On this principle he has reduced dislocations of the hip at all periods up to fourteen years, and this was done without injury to the parts or suffering.

In his article on Congenital Dislocations he gives many interesting facts, and clearly describes the manner in which reduction can be effected and maintained.

The best effects of *continuous elastic extension* are most marked in diseases of the joints. In morbus coxarius it overcomes muscular contraction, thereby removing the pain and rendering the patient comfortable and free to exercise and enjoy the days while recovery is taking place. One writer has clearly described the beneficial effects and relief obtained in the words, "It robs the disease of all its terrors."

The principle, in Dr. Davis's treatment of disease of the joints, is to keep the diseased surfaces separated until the parts have healed, then trouble will not ensue when they are again brought in contact. He considers the pressure caused by the contraction of the muscles as the principal cause of the destruction of the joint, and if the treatment is commenced in the early stage the patient will recover with a good joint. The doctor has devised apparatus — some twenty-five different splints and appliances — for carrying out his ideas.

The doctor is very emphatic in his declaration that bony union, or anchylosis, never takes place between ulcerated bony surfaces any more than it will between ulcerated surfaces of the mucous membrane; that the fixture is from the shortening of all the tissues about a joint, and can be overcome by continuous extension; that he has restored full motion even after fourteen years of fixture, and that his plan of treatment gives greater hope of success than any other.

His interesting chapter on Pott's Disease describes how the form can be kept erect, with his appliances, and deformity prevented.

His chapter on Phthisis Pulmonalis is very interesting and instructive, and contains many ideas new and valuable.

Dr. Davis's Conservative Surgery takes up and discusses only a few of the many diseases the surgeon is called upon to treat. But these few are handled in a masterly manner, his descriptions being clear and concise, his methods and plans of treatment excellent, apparently founded on accurate scientific principles, and taken altogether this is really a valuable contribution to the profession. J. F. FRISBIE, M. D., Harv., '61.

NEWTON, MASS.

"TUMORS OF THE BLADDER."

MR. EDITOR, — In your report of a recent discussion upon "Tumors of the Bladder," the subject of suprapubic incision does not, I think, receive the notice it deserves, and I take the liberty of sending you a report of my remarks upon the present state of our knowledge in regard to the relative value and applicability of the suprapubic and perineal incisions in dealing with these neoplasms: —

I said that I thought the question of preference between the median perineal operation (French boutonnière) and the suprapubic incision for these cases ought to be considered still an open one.

The suprapubic operation fell into disrepute and disuse during the time before antiseptic methods were properly understood.

This operation has for some years been the subject of much study by Continental surgeons, and many improvements in method have been introduced which greatly simplify the procedure and obviate previous difficulties.

One of the most important of these is the use of the rectal balloon of Petersen. This is employed as follows: The bladder is filled with water, and a rubber bag attached to the nozzle of a syringe is then introduced into the rectum. As this is inflated, the bladder is pressed upwards and forwards against the abdominal wall, and fixed there. The anterior peritoneal fold, always the bugbear of the operation, is lifted up out of harm's way, so that with ordinary care it can be avoided.

Another recent improvement in this operation is the application of thorough drainage to the bladder wound. Formerly efforts were commonly made to close the wound in the vesical wall with sutures. But although this attempt sometimes succeeded it not infrequently led to a fatal infiltration of urine. It is now found to be safer to leave the bladder wound widely open, and to introduce one or more large tubes through it to supply necessary drainage until the loose cellular tissue about closes itself by granulation. Excellent results are claimed for this method.

Professor Guyon prefers the suprapubic incision for dealing with neoplasms of the bladder on the ground (1) that the high operation, by allowing free access to the viscus, gives opportunity for a much more thorough and certain removal of the new growth; (2) that the possibility of getting the finger in alongside of the instruments lessens the danger of nipping or otherwise injuring the bladder wall; (3) that no important parts are injured by the suprapubic incision, which also avoids the danger of hæmorrhage; and (4) that the wound can be made and dressed antiseptically, thereby reducing the chances of septic infection.

If this belief in the comparative safety of the high operation, which Professor Guyon shares with so many other Continental surgeons, is well grounded, it will certainly be conceded that in view of the much easier access it affords to the bladder it should be employed in cases where the growth is presumably benignant, and a thorough removal is necessary to prevent its recurrence.

When, however, the symptoms are those of a malignant growth, and the object of interference is mainly to establish drainage, the operation which enters the bladder at a dependent point is manifestly best.

Truly yours, A. T. CABOT, M. D.

3 MARLBOROUGH STREET.

Miscellany.

PREVENTION OF OPHTHALMIA NEONATORUM.

DR. HENRY J. GARRIGUES writes on this subject, in the *American Journal of the Medical Sciences* for October, detailing his experience in the New York Maternity Hospital, where the character and social grade of the patients is such as to make the disease very common. The results of curious treatments are given, including carbolic ante-partum injections, but the percentage of cases remained high, and the prognosis as to sight bad. Credé's method, introduced in the year 1880, consists in *washing the outer surface of the eyelids with plain water, separating them slightly, and letting a single drop of a two per cent. solution of nitrate of silver fall from a glass rod on the cornea.* No after-treatment is used. Since Credé introduced this method in his clinic in 1880 until the end of March, 1883, he treated 1160 children in this way, and only four, that is, little more than one third per cent., were affected, and of these two or perhaps even three must be eliminated on account of particular circumstances, so that in reality the percentage becomes almost none.

This method was introduced by Dr. Garrigues on the 14th of October, 1882, in Maternity Hospital, and kept up till the end of March. After that time it was discontinued, but during his next term, from the 1st of October, 1883, till the 31st of March, 1884, he followed the same plan. Thus it was tried for almost twelve months, during which there were born 352 living children in the hospital. In one case which during the absence of the house surgeon was delivered by an assistant, the application was neglected, and this child had a purulent conjunctivitis with opacity of the cornea. Although it was transferred to the eye ward in order to be under the treatment of specialists for diseases of the eye the case ended in complete loss of sight in both eyes. As a counterpart to this, *of the 351 children who were treated as prescribed not a single one was affected.*

In a few cases was observed a slight serous discharge from the conjunctiva. In the first of this kind that occurred compresses dipped in ice-water were applied,

and the eyes washed with a saturated solution of boracic acid. Later no treatment whatsoever was used, and the slight irritation, which evidently was due to the instillation, disappeared in the course of a couple of days. How little the eyes are affected by the silver solution is best shown by cases in which, through carelessness, so much of the solution was introduced that the eyes became surrounded by black rings. This happens easily in the hurry of a delivery room if the application is made with one of the common squirters which are used for counting drops. It is, therefore, better to use a small *solid* glass rod, which retains only a single drop when dipped into the bottle containing the solution. This application is made immediately after the cord has been severed, which is not done before the pulsation in it has ceased. During the following ablution great care is taken that no foreign substance enters the eyes.

As some might think the treatment unnecessarily harsh, it is stated that Hecker, in Munich, used a one per cent. solution of nitrate of silver, and had almost as many cases of ophthalmia neonatorum as before. Credé himself tried first a solution of borax (one to sixty) without satisfactory result. His treatment with the two per cent. silver solution having almost banished the disease from the lying-in wards, and no bad accidents having occurred in the thousands of cases in which it has been used, there seems to be good reason for adhering strictly to the method as practiced by its originator.

The writer does not recommend this treatment as yet as a routine in cases of private practice in view of the comparative rarity of the disease in such cases, and because until the treatment and its immense value have become more generally known in and outside of the profession the physician might be blamed if it should happen that the eyes became a little inflamed, as they do in some cases. The only exception he would make from this rule, for the time being, is when it is known that the mother or father of the child recently has had a gonorrhœa. Here the danger for the child is so great that we ought to protect it, which easily can be done under some plausible pretext. Even if the gonorrhœa in the father is of old date it might be advisable to have recourse to the preventive treatment, since Dr. Noeggerath has shown how persistent this disease may be even without giving rise to any symptom which would call attention to it.

POISONING BY CANNED FOODS.

HIS attention being called to the subject by the occurrence in his practice of six cases of corrosive poisoning, according to his diagnosis, from eating canned tomatoes, Dr. John G. Johnson, of Brooklyn, New York, inquired into the general question of poisoning by canned goods, and presented a paper on it before the Medico-Legal Society of New York, April 9th of this year. We reproduce the general conclusions of this paper as an answer to some of the queries excited by our editorial comments of October 16th on the Safety of Canned Foods: —

(1.) The six cases were not cases of sickness from spoiled tomatoes. (2.) They were cases of corrosive poisoning from muriate of zinc and muriate of tin. (3.) This poisonous amalgam must be abandoned. (4.) Exemplary damages, "at the discretion of the jury," will be sustained by the courts for this reckless tampering with human life in using a dangerous means when a safe one could be used. (5.) The canners have only themselves to thank for the present panic in their business, for they have persisted in this dangerous plan, knowing it was dangerous. (6.) Every cap should be examined, and if two holes are found in it send the can at once to the Health Board, with the contents, and name of the grocer who sold it. (7.) Reject every article of canned food that does not show the line of rosin around the edge of the solder of the cap, the same as is seen on the seam at the side of the can. (8.) Reject every can that does not have the name of the manufacturer or firm upon it as well as the name of the company and the town where manufactured; "standards" have all this. When the wholesale dealer is ashamed to have his name on the goods fight shy of them. (9.) Press up the bottom of the can; if decomposition is commencing, the tin will rattle the same as the bottom of the oiler of your sewing machine does. If the goods are sound it will be solid, and there will be no rattle to the tin. (10.) Reject every can that shows any rust around the cap on the inside of the head of the can. If housewives are educated to these points then muriate of zinc amalgam will become a thing of the past, and dealers in "swells" have to seek some other occupation.

THE CROW AND THE COUNTRY DOCTOR.

(A MEDICAL FABLE.)

A FLOCK of Crows was much alarmed one day at the sight of a strange object in the midst of a field upon which they customarily fed. They at once called upon an Old Crow who practiced his profession in those parts, and who made a specialty of corns, to give his opinion about the matter. The Crow, having examined the object, shook his head, and said that it was a serious case, and that it was lucky he had been summoned so soon, though he should have been called earlier, and he would like the advice of his friend, the Owl, who had had the benefit of travel abroad, and who was particularly skillful in cases which called for the Steady Use of the Eyes. He would also like to have the Frog, who was spending his summer vacation by a neighboring pool, and who had a wide reputation for his physiological knowledge, to see the case. The Crow, the Owl, and the Frog, met, and having studied the object at a suitable distance withdrew to the shade of a High Wall in order to deliberate. The Frog first opened his mouth, and observed that it was a nice Case, which reminded him of a very curious experience that he had had with a piece of Red Flannel two summers before, when he received a severe contusion upon the centre of Goltz. After telling all about this very apposite event, the Owl observed that such cases were extremely rare. He had, however, had two very much like them, the details of which he had forgotten. He then related some very humorous obstetrical stories, which much amused the Crow.

Having received these opinions, the Crow thanked his Colleagues for the valuable light they had furnished. He had himself been at first disposed to think the trouble a case of *Terror Corvorum*, or Scare-Crow;

but the advice given reminded him now that the appearance in the cornfield exactly resembled a country doctor whom he occasionally met, and who, after practicing medicine for forty years, was at present trying to live on What he had Saved.

This diagnosis was finally agreed upon, and reported to the anxious Crows outside, who were much relieved.

MORAL. This story shows the profit that is got from consultation, and the lucrative nature of the practice of medicine.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 1, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	622	215	22.56	17.92	7.84	2.40	8.00
Philadelphia	927,995	320	112	19.45	10.99	1.88	2.83	12.87
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	188	56	17.49	23.32	2.65	3.18	5.32
Baltimore	408,520	—	—	—	—	—	—	—
St. Louis	400,000	166	61	29.40	10.20	9.60	3.60	10.20
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	84	29	22.61	19.04	2.38	4.76	7.14
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	52	15	13.44	15.36	3.84	3.84	—
New Haven	62,882	18	—	16.66	27.77	5.55	11.11	—
Nashville	54,400	20	5	25.00	15.00	5.00	10.00	10.00
Charleston	52,286	26	10	11.55	11.55	3.85	3.85	—
Lowell	71,447	31	10	22.61	9.69	9.69	—	9.69
Worcester	69,442	15	10	26.66	13.33	—	—	26.66
Fall River	62,674	31	18	41.94	—	19.38	—	9.69
Cambridge	60,995	14	3	42.84	21.42	21.42	7.14	14.28
Lawrence	45,516	11	8	—	—	—	—	—
Lynn	44,895	—	—	—	—	—	—	—
Springfield	38,090	—	—	—	—	—	—	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	11	6	63.63	9.09	9.09	18.18	18.18
New Bedford	30,144	9	5	33.33	11.11	11.11	—	22.22
Salem	29,503	10	3	30.00	30.00	10.00	—	10.00
Chelsea	24,347	5	3	60.00	20.00	60.00	—	—
Taunton	22,693	6	1	16.66	33.33	—	—	16.66
Gloucester	21,400	2	0	—	—	—	—	—
Haverhill	20,905	—	—	—	—	—	—	—
Newton	19,421	—	—	—	—	—	—	—
Brockton	18,323	—	—	—	—	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	4	1	25.00	—	—	—	—
Fitchburg	13,433	—	—	—	—	—	—	—
Eighty-one Massachusetts towns	—	61	7	21.32	14.76	6.56	6.56	3.28

Deaths reported 1706: under five years of age, 578; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 386, consumption 268, lung diseases 184, diphtheria and croup 149, diarrhœal diseases 105, typhoid fever 53, scarlet fever 22, malarial fevers 16, whooping-cough 14, measles 13, cerebro-spinal meningitis nine, erysipelas three, puerperal fever two. From *scarlet fever*, Philadelphia, Boston, and St. Louis four each, District of Columbia three, Woburn two, New York, Holyoke, Salem, Newburyport, and Bradford one each. From *malarial fevers*, New York nine, St. Louis six, Charlestou one. From *whooping-cough*, New York six, Boston five, District of Columbia three. From *measles*, New York nine, Fall River three, Philadelphia, one. From *cerebro-spinal meningitis*, Fall River three, New York, Philadelphia, St. Louis, District of Columbia, Lowell, and Holyoke one each. From *erysipelas*, Boston two, Fall River one. From *puerperal fever*, New York and Boston one each.

Cases reported in Boston: typhoid fever 57, scarlet fever 55, diphtheria 36, and measles 18.

In 93 cities and towns of Massachusetts, with an estimated population of 1,167,683 (estimated population of the State 1,955,104), the total death-rate for the week was 17.72 against 17.70 and 17.62 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending October 25th, the death-rate was 20.9. Deaths reported 3517: infants under one year of age 869; acute diseases of the respiratory organs (London) 274, diarrhœa 105, scarlet fever 67, measles 55, fever 66, whooping-cough 46, diphtheria 32, small-pox (London 15, Liverpool, Hull, Birmingham, and Wolverhampton one each) 19. The death-rates ranged from 16.5 in Sunderland to 31.5 in Preston; Birmingham 20.9; Birkenhead 18.4; Bradford 20.4; Leeds 24.9; Leicester 20.4; Liverpool 26.4; London 19.0; Manchester 26.1; Nottingham 22.4; Sheffield 20.3. In Edinburgh 17.6; Glasgow 25.1; Dublin 26.8.

For the week ending October 18th, in the Swiss cities, there were 36 deaths from consumption, diarrhœal diseases 28, lung diseases 12, diphtheria and croup five, whooping-cough two, typhoid fever one, small-pox one. The death-rates were, at Geneva 8.2; Zurich 7.9; Basle 11.6; Berne 33.3.

The meteorological record for the week ending November 1st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date. Oct.–Nov., 1884.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 26	30.552	39	48	31	63	48	59	57	W	NW	S	15	2	7	C	C	C	—	—
Mon., 27	30.340	52	58	38	73	67	80	73	S	SW	SW	8	15	20	O	O	O	—	—
Tues., 28	30.131	57	64	49	79	90	68	79	SW	SW	W	12	18	11	O	R	O	—	—
Wed., 29	30.352	45	50	40	65	65	91	74	NW	E	E	9	11	12	C	O	R	—	—
Thurs., 30	30.185	43	48	41	100	96	100	99	E	N	NE	19	17	20	R	R	R	—	—
Fri., 31	29.984	40	49	36	100	88	89	92	NE	NE	N	24	21	13	R	O	Snow	—	—
Sat., 1	29.825	45	50	32	91	82	79	84	N	SW	SW	3	6	14	O	O	O	—	—
Mean, the Week.	30.196	45	52.4	38.2				79.7										58.15	2.06

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM NOVEMBER 1, 1884, TO NOVEMBER 7, 1884.

SPENCER, W. C., major and surgeon. Ordered to Fort Trumbull, Conn., for duty as post surgeon, relieving assistant surgeon William J. Wilson, U. S. A., who will report at Department Headquarters, and await further orders. S. O. 227, Department of East, November 5, 1884.

TOWN, F. L., major and surgeon. Assigned to temporary duty as post surgeon, Fort Clark, Texas. S. O. 145, Department of Texas, October 27, 1884.

BENTLEY, EDWIN, major and surgeon. To be relieved from duty at Fort Clark, Texas. S. O. 145, Department of Texas, October 27, 1884.

CORBUSIER, W. H., captain and assistant surgeon. Ordered to Fort Grant, A. T., for duty as post surgeon. S. O. 102, Department of Arizona, October 30, 1884.

HOPKINS, WM. E., first lieutenant and assistant surgeon. Ordered to Fort Lowell, A. T., for duty as post surgeon. S. O. 102, Department of Arizona, October 30, 1884.

EGAN, PETER R., first lieutenant and assistant surgeon. Relieved from duty at Fort Lowell, A. T., and ordered to Fort Bowie, A. T., for duty as post surgeon. S. O. 102, Department of Arizona, October 30, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING NOVEMBER 8, 1884.

CRAIG, THOMAS C., passed assistant surgeon. To the Alliance, for temporary duty. November 1, 1884.

SWAN, ROBERT, passed assistant surgeon. Detached from the Naval Hospital, Norfolk, Va., and placed on sick leave. November 3, 1884.

WIEBER, F. W. F. Appointed assistant surgeon. November 3, 1884.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Obstetric and Gynæcological Section.* — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, November 19th, at 7.45 o'clock. Communications: Dr. Stephen W. Driver, of Cambridge, will, by invitation, read a paper entitled An Analysis of One Thousand Successive Obstetrical Cases. Following which Dr. Royal Whitman will report A Case of Placenta Prævia; Delivery by Version. It is especially urged upon all members of the Suffolk District Medical Society, whether members of this particular Section or not, to attend these meetings, take part in the discussions, and help to make the section a Success. All members of the Massachusetts Medical Society will be welcome at any of the meetings of the Section, and are invited to take part in the discussions.

JAMES R. CHADWICK, M. D., *Chairman.*
ROBERT B. DIXON, M. D., *Secretary.*

BOOKS AND PAMPHLETS RECEIVED. — Medical Record Visiting List, or Physician's Diary for 1885. New York: William Wood & Co.

Biennial Report of the Officers of the Vermont Asylum for the Insane. For the Two Years ending July 31, 1884. Brattleborough, Vt. 1884.

Madness and Crime. (Reprint from the Medico-Legal Journal.) By Clark Bell, Esq., President of the Medico-Legal Society.

Prospectus. Certificate of Incorporation, By-Laws, and Rules of the United States Cremation Company. Limited. New York. 1884.

Lectures on the Principles of Surgery. Delivered at Bellevue Medical College by W. H. Van Buren, M. D., LL.D. (Yalen.), etc. Edited by Lewis A. Stimson, M. D. New York: D. Appleton & Co. 1884.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland, Eighty-Sixth Annual Session, held at Baltimore, Md., April, 1884.

Kesir oder Kapir. Echter Kumyss aus Kutmilch. Von W. N. Dimitrijew, praktischem Arzte in Jalta (Krim) mit Erlanbriez des Verfassers ins Deutsche ubertragen von Eng. Bothmann. Hannover. 1884.

Transactions of the American Otological Society. Seventeenth Annual Meeting, Catskill Mountains, July 15, 1884. Vol. III. Part 3. 1884.

On the Use and Abuse of Pessaries. By George Granville Bantock, M. D., F. R. C. S. (Edin.). With Illustrations. Second Edition, entirely rewritten. London: H. K. Lewis. 1884.

The Elements of Physiological and Pathological Chemistry. A Handbook for Medical Students and Practitioners. Containing a General Account of Nutrition, Foods, and Digestion, etc., etc. By T. Cranstown Charles, M. D. Illustrated. Philadelphia: Henry C. Lea's Son & Co.

Circulars of Information of the Bureau of Education. No. 4, 1884. Proceedings of the Department of Superintendence of the National Educational Association at its Meeting at Washington, February 12–14, 1884. Washington. 1884.

Report of the Commissioner of Education for the Year 1882–83. Washington. 1884.

Abstract of Report of Commissioner of Education for 1882–83.

A Text-Book of Practical Medicine. Designed for the Use of Students and Practitioners of Medicine. By Alfred L. Loomis, M. D., LL.D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York, etc. With 211 Illustrations. New York: William Wood & Co. 1884.

Obstetric Aphorisms for the Use of Students commencing Midwifery Practice. By Joseph Griffiths Swayne, M. D., Consulting Physician Accoucheur to the Bristol General Hospital, and Lecturer on Obstetric Medicine at the British Medical School. Eighth Edition. Philadelphia: P. Blakiston, Son & Co. 1884.

Doctrines of the Circulation. A History of Physiological Opinion and Discovery in Regard to the Circulation of the Blood. By J. C. Dalton, M. D. Philadelphia: Henry C. Lea's Son & Co. 1884.

Mumps as a Cause of Sudden Deafness. By Leartus Connor. (Reprint.) 1884.

Original Articles.

THE NITRITE OF AMYL AS AN ANTIDOTE IN STRYCHNIA POISONING.

BY HOBART A. HARE, M. D., PHILADELPHIA, PA.

In 1871 Dr. St. Clair Gray, of England, made several experiments to determine whether the nitrite of amyl was practically as efficient an antidote to strychnia in toxic doses as its physiological action would indicate. In his experiments he used but two rabbits, and his results were very satisfactory. He gave to each rabbit ten drops of the nitrite of amyl and one half grain of strychnia. Both drugs were given simultaneously and by the hypodermic method, and no decided symptoms were manifested. He found, however, that one quarter grain of strychnia frequently caused death in one convulsion when given alone. The writer has used six rabbits, as may be seen further on, but has not been able to come to such satisfactory results as Dr. Gray.

To rabbit No. 1 he gave one eighth of a grain of strychnia, and in two minutes a severe convulsion came on during inspiration, and by using artificial respiration and inhalations of the nitrite the animal's life was saved. This occurred five times. The sixth convulsion came on during expiration, and therefore no ordinary artificial respiration could be induced, and the animal died. (It is proper to state here that none of the nitrite was given hypodermically.) M. Schiff has tried the effects of artificial respiration[1] in strychnia poisoning with very satisfactory results, but in his experiments he overcame the difficulty of carrying on artificial respiration when the convulsion came on in expiration by inserting a canula into the trachea and carrying on the renewal of air by forcing air into the lungs. That such a proceeding would be entirely impractical in the human being is so evident that it is hardly necessary to mention it in this paper.

It is very evident to any one if death is caused in strychnia poisoning by spasmodic locking of the chest walls, that artificial respiration, thereby causing air to enter the lungs, will prolong life. It is equally evident that such means could only be of service when the convulsion came on in inspiration, as pressure could then drive out the exhausted air and the lungs be filled by the natural expansion of the chest walls due to their innate elasticity. In expiration the chest would be locked when its walls were most nearly approximated, giving no room for air in the first place, and preventing any external force from doing good, while internal force could not be used. That the nitrite of amyl is capable of stopping a convulsion when inhaled is certain. In each convulsion in the rabbit just mentioned complete relaxation came on as soon as the rag wet with the nitrite was held to the nostrils of the animal, and the full effect of the nitrite was seen by the rapid breathing, injection of the conjunctiva, and the relaxation before mentioned. When the nitrite was removed, and as soon as its after effects were over, the convulsions returned, and so on through the five till the sixth caused death in the manner stated.

In the second rabbit, to which was given one twentieth of a grain of strychnia followed in four minutes by fifteen minims of the nitrite of amyl, a partial convulsion came on one minute after the nitrite was given. After this the animal hopped about the floor as if free from any poison whatsoever, with the exception that the slightest touch would cause a tonic spasm of the whole body of about one second's duration. Five minutes later slight convulsion, followed in thirty seconds by spasms which followed each other with great rapidity and regularity. This lasted for fifteen minutes. A period of complete relaxation now came on with the respirations at about 130 per minute; following this in three minutes came irregular spasms. These spasms became less and less frequent, and at last only came when the animal was disturbed. All along during these latter spasms there was constant tonic spasm of the hind legs, and it was clear that the effects of the more volatile nitrite were wearing off, and that the strychnia was beginning to reassert itself. This was the more clearly shown by the fact that the spasms increased both in frequency and force. Forty-five minutes after the injection of the strychnia a convulsion came on, from which the animal partially recovered, and this was succeeded by another and then another, in which last convulsion the animal died, it being fifty minutes after the injection of strychnia.

In rabbit No. 3 one twentieth grain of strychnia was given, which caused death in less than two minutes. As soon as the convulsion came on artificial respiration was used, nitrite of amyl held to the nose, and twenty drops of the nitrite given hypodermically; this animal died without being relaxed.

The difference in time between the dose of strychnia and the first convulsion, and also between the first convulsion and fatal effect in the last two rabbits, can, I think, be explained.

In the last rabbit (No. 3) the hypodermic of strychnia was given very near to the vertebræ, and was probably taken, in part at least, directly to the cord by the intervertebral vessels.

In the preceding rabbit (No. 2) the hypodermic of strychnia was given nearer the abdomen, and the nitrite was given near the cord, and so its effects were present when the excito-motor reached the cord in full force.

To rabbit No. 4 one twentieth grain of strychnia[2] and nineteen minims of nitrite of amyl were given simultaneously in this respect, being the counterpart of Dr. Gray's experiments. In three and one half minutes a severe convulsion came on, which was followed by eight lesser convulsions, occurring at irregular intervals, but following each other rapidly. The convulsions now became further apart, but individually more prolonged, the longest time between any two convulsions being thirteen minutes. This interval began forty-five minutes after the first convulsion. One hour after injection several spasms came on, succeeding each other with great rapidity. These lasted for the next thirty minutes. The respiration was noticed not to be as seriously retarded as formerly for a short time, but this change for the better was only transient; in a short time several convulsions came on, in the last one of which the animal died.

Rabbit No. 5 was given the same amount of strychnia as its predecessor, and the same amount of the nitrite, about one inch from the vertebræ, and both

[1] Schmidt's Jahrbücher, Bd. cxli., p. 43.

[2] It is proper to state that the strychnia was given near the cord in this case also.

drugs were given simultaneously. A convulsion came on in two and one half minutes, which was followed by almost constant spasms and convulsions with no intervals of rest at all. This animal died twenty-eight minutes after injection, apparently from exhaustion, as there was no spasm or convulsion at the time of death, and no symptoms of the presence of the nitrite, at least in overdose.

Rabbit No. 6. Strychnia, one twentieth of a grain, and nitrite of amyl, nineteen minims, were given as before. Convulsion came on in nine minutes, the delay being probably due to the fact that quite a large amount of blood escaped after the hypodermic needle was withdrawn, and with the blood escaped quite a quantity, probably, of the injected and as yet unabsorbed fluid. This animal lived about three hours, during which time it had numerous convulsions and spasms. This increase of time before death may be attributed to the hæmorrhage above stated.

It is evident from the foregoing accounts that —

First. Nitrite of amyl does prolong life in strychnia poisoning, although its action is so fleeting compared to that of its adversary that it can only be used to tide over the patient until more persistent remedies or antidotes, such as potassium bromide or chloral, can be administered.

Second. That it cannot be used by inhalation as an antidote with any chance of security from a fatal termination, owing to the facts regarding expiration before stated.

Third. That the longer the nitrite be given after the strychnia the less good it will do, *provided* the strychnia has already shown itself by convulsions or otherwise. This is true not because the nitrite is less powerful after the first convulsion, but because death is more apt to come before nitrite can fully act.

Fourth. That the nitrite has to be given in such quantities and at such times that its full physiological action be present constantly, otherwise in the instant which may supervene between the after effects of one dose and the beginning of the next the patient may die.

Fifth. That in cases of strychnia poisoning, the nitrite of amyl being used as an antidote, an injection of the nitrite should be given, and the patient kept moderately under its influence by inhalations until other remedies are obtainable.

The writer cannot account for the disparity existing between the results of Dr. St. Clair Gray and his own. It is certain that one twentieth grain of strychnia invariably causes death in the rabbit, as the foregoing experiments would prove. It is probable that some mistake must exist as to the amount of Dr. Gray's doses from errors of a typographical character or from impurity of the strychnia used. His doses, as before stated, were one half grain to ten drops of nitrite, and that he found one quarter grain often caused death, when given alone, in one convulsion. That one quarter grain of strychnia should cause death in a rabbit in one convulsion cannot be wondered at when we consider that a twentieth grain is a maximum dose for a man for continuous use. Many deaths are recorded from one quarter and one half grain doses in man. One man who took one half of a grain was dead in twenty minutes.

It may be well to state that the strychnia used by the writer was very carefully selected, as was also the nitrite of amyl.

LATENT ACUTE PERITONITIS OF IDIOPATHIC ORIGIN. LARGE AMOUNT OF PUS IN THE ABDOMINAL CAVITY. EVACUATION. RECOVERY.[1]

BY Z. B. ADAMS, M. D., FRAMINGHAM, MASS.

"L'on peut dire avec vérité que le pus est la secrétion normale du péritoine enflammé." — *Nouveau Dict. de Med. et de Chirurgie*, Article "Péritonite Aiguë."

FRANCES L., four and a half years old. Parents and grandparents all living and healthy. The fourth of five children. No family history of disease of any kind.

Previous history. Two weeks before birth, for no obvious reason, the mother felt something break suddenly, and a large quantity of liquor amnii was discharged. At that time all feeling of motion ceased. The labor was at full term, easy and rapid. The child was very feeble, scarcely breathed, and was estimated to weigh not more than four pounds. She looked like a seven months' child. There was a firm knot in the cord. For the first week the child was kept alive by artificial heat, and was apparently too weak to nurse. At the end of that time she began to gain. Livid ecchymoses appeared upon the buttocks and bowels.

The child throve, and at the date of sickness was forty-one inches high and well nourished, but not fat. Her digestion was more liable to disturbance than that of the other children.

When about eight months old she was tipped out of her carriage and fell a few feet off a bank, was picked up insensible, but soon recovered. She became very pale and vomited from the shock.

On the 17th of May, 1884, after a somewhat hearty dinner, Frances complained of feeling ill, was nauseated, feverish, and languid. The night was restless, and she had several loose stools with pain in bowels. Seen by me the morning after, the face was flushed, temperature 104° F., pulse 120, nausea, diarrhœa, no tenderness of bowels, no pain, no tympanites. Complained only of feeling tired. The parents feared scarlatina or diphtheria. At night the temperature was 105° F., pulse 140; she was rather restless, but did not complain of pain. The symptoms were attributed by me to indigestion.

On the next day, May 19th, the youngest child was attacked with similar symptoms, which, however, soon disappeared.

Frances continued to have diarrhœa for about a week. The stools were slimy, containing mucus. The nausea gradually subsided, as did the fever, but she did not recover. She made no complaint of pain and there waa no tenderness of the abdomen. She remained languid, did not care to get up, had a pulse of 120, and a temperature occasionally rising to 102° F. in the evening, but not above 100° F. in the day. There was no marked tympanites, but rather dullness of the abdomen. The appetite did not return. The skin was dry and the expression one of indifference. The symptoms were of a mild typhoid character. There was no hectic, no headache, nor sweating. Sleep not disturbed and mind perfectly clear, but not interested in anything. The stools became scanty and occasionally mucous in character. It was supposed by me that there was some bowel obstruction. The most careful examination revealed no tenderness anywhere and no tumor. The

[1] Read before the Middlesex South District Medical Society, October, 1884.

form of the belly was not unusual, but there was some general distention, and there was dullness on percussion in spots. The symptoms did not warrant the diagnosis of peritonitis, either tubercular or from other causes. There was no colic pain, no tenderness on pressure, no fluctuation, no enlarged glands. There was no complaint of tenesmus. The tongue was moist and coated.

This condition continued for about three weeks, during which time the abdomen very slowly enlarged.

At the beginning of the fourth week a nodulated tumor appeared in the epigastrium, occupying a right median position. It was somewhat tender to the touch, and could be plainly seen. The abdomen was now very much distended, showing enlarged veins. There was no pain, and no tenderness on pressure except over tumor. The renal region was resonant and the abdomen also in spots, but generally dull on percussion. The diaphragm and thoracic organs were pushed up, and the apex beat of the heart was an inch above the nipple line. There was emaciation, but no decided hectic nor sweating. Appetite was absent, and there was frequent complaint of nausea after taking food. The abdomen presented a uniform enlargement, which was not elastic nor œdematous. Fluctuation was not clear, nor was there a marked line of flatness anywhere.

She was now seen by Dr. H. O. Marcy, of Boston, in consultation, and it was decided to aspirate. The needle, introduced above the pubes, drew off more than a pint of pure, creamy, odorless pus. Dr. Marcy very kindly examined and reported upon this matter, which he found to contain multitudes of micrococci, pus corpuscles often disintegrated, fine granules, a little free fat, and fine oil globules. "The micrococci very active, which reproduced in pairs, not chains."

There was temporary relief to the general symptoms, and ten days afterwards, precisely six weeks from the onset of the disease, with the valuable aid of Dr. Marcy, and of Drs. Smith and Bigelow, of Framingham, I made a section two inches long and above the umbilicus as far as the tumor already described in the epigastrium. This tumor was then about as large as a silver dollar, nodulated, flattened, and fluctuating in the middle, slightly blushed, and sensitive to the touch. The condition of the child was as follows: Respiration of the costal type; thoracic viscera pushed upwards; apex beat of heart one inch above the nipple line; emaciation marked over the ribs; large veins prominent on each side of the abdomen; umbilicus prominent; face dusky and anæmic; no jaundice; thrilling in jugulars; countenance not expressive of pain; abdomen not tender; color of skin somewhat dusky; no œdema; urine normal. Pulse 140; temperature 101° F.

A careful section was made through the skin and subcutaneous layers, and the peritonæum was opened with the usual precautions. A quantity of odorless, creamy pus, estimated to amount to considerably more than a quart, flowed out, together with some blood-clots and masses of fibrinous material, as soon as the peritoneal cavity was opened. The peritonæum appeared thickened, deep red in color, and bled wherever touched. Firm bands of adhesion were found, especially on the right side. The nodulated tumor had no deep origin or connection, and proved to be only inflammatory thickening of the peritonæum itself and the subcutaneous cellular tissue; evidently an effort of nature to get rid of the pus. At my request Dr. Marcy gave me his valuable aid in exploring the cavity, and confirmed my observations. The peritoneal cavity was then thoroughly irrigated with hot water (1 — 200 carbolic), further examination or interference being prevented by the condition of the patient. Collapse from shock and the withdrawal of so large an amount of fluid pressure from the intestinal tract, obliged us to stop and resort to artificial respiration, and to close the wound as rapidly as possible. This was done with two deep sutures, taking in the peritonæum and fine superficial suture of the skin.

Immediately after the operation the temperature fell to normal, and the pulse to 104, and so remained for four days. There was no pain, she slept well, and had a good appetite; urine normal.

On the fourth day after operation the temperature dropped to 97° F., and there was appearance of exhaustion, with loss of appetite; pulse 120, and an evening rise of temperature to 102° F. The temper became restless and capricious, and the abdomen showed evident signs of reaccumulation of fluid. The wound was healthy. Some tympanites developed. The superficial sutures were removed on account of the stretching.

Fifth day. Abdomen very tense. Deep stitches were removed in hope of giving exit to pus, but union had taken place and only a few drops appeared at the points of suture. Morning temperature normal, evening 102° F. to 103° F. No chills, sweating, nor headache. The bowels moved with discharge of gas and some relief to distention. Urine normal.

Seventh day. Union of abdominal wound complete. Some tympanites. Considerable distention and uneasiness. On the eighth, ninth, and tenth the evening temperature rose to 103° F., and in the morning fell to subnormal, — 97.5° F.

Twelfth day. Abdomen tense, twenty-two inches. A spontaneous opening occurred over the tumor in epigastrium with free discharge of a thin purulent matter, and relief to all the symptoms. The temperature fell to 96.5° F. and remained subnormal for four days. On the fourteenth day the discharge ceased, and there was occasional vomiting. The abdomen was soft, and measured eighteen inches. Appetite fair. Pulse feeble (104) and intermittent. Urine scanty. Slight discharge of pus from epigastric opening in the evening.

Sixteenth day. Temperature rose to 102° F. between noon and three P. M., and remained high until eight P. M. After passing large quantities of flatus and some fæces by use of injections, the temperature slowly fell, and a slight discharge took place from the opening. The child was drowsy all day.

After this date all discharge ceased. The nodulated tumor in the epigastrium softened and disappeared. On the thirtieth day the heart had completely returned to its normal situation. The child regained appetite and color. During all this time the bowels were kept free by daily injections, usually of simple warm water, but occasionally turpentine or oil was added.

The pus seemed to gravitate towards the region of the spleen, and thence to the left iliac region, where there still remains some dullness. Two or three times at considerable intervals there have been sharp attacks of colic pain during this convalescence; once apparently caused by a blow upon the stomach, and once by some error in diet. During these colic attacks the abdomen balloons out over the site of the epigastric tumor and that of the incision made at the operation. Ordinarily there is nothing remarkable about the ab-

domen except, perhaps, that it is somewhat fuller than usual along the median line. There is no tenderness and no tympany or dullness anywhere. Color of skin normal. The bowels move without pain; are seldom constipated; urine normal; and the child has grown an inch and a half in height, and has gained nearly ten pounds in weight in about three months.

THE PATHOLOGY OF BRONCHO-PNEUMONIA.[1]

BY FRANCIS DELAFIELD, M. D.,

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I SHALL offer for your consideration, this evening, some observations on the subject of broncho-pneumonia. I venture to do this for the reason that I believe that this particular lesion suffers from the effects of tradition, from having been called catarrhal pneumonia, and from its relations to pulmonary phthisis. It is also doubtful whether the profession appreciate what a common lesion it is.

I do not mean that the real lesions and symptoms of the disease have not been described. They have been described by different observers; but their descriptions have been, for the most part, fragmentary, and have failed to give a picture of the disease.

The current notions concerning the disease have remained somewhat obscure and indefinite. The prevailing ideas concerning broncho-pneumonia may be stated as follows: —

That the terms broncho-pneumonia, lobular pneumonia, catarrhal pneumonia, and capillary bronchitis may all be used to designate the same lesion: although it is customary to use the words broncho-pneumonia and lobular pneumonia when the disease occurs in children; capillary bronchitis when it occurs in adults; and catarrhal pneumonia when it is believed to be a form of phthisis.

That the inflammation begins in the bronchi, extends to the small and capillary tubes, and then to the groups of air vesicles which belong to these bronchi, and that for this reason the hepatization assumes a lobular form.

That obstruction of the bronchi with inflammatory products frequently produces areas of atelectasis.

That the catarrh may become chronic, the products of inflammation in the air vesicles undergo cheesy degeneration, interstitial changes be developed in the frame-work of the lung and so a form of pulmonary phthisis be produced.

This, I think, is a fair enough example of the ordinary accounts of broncho-pneumonia — accounts which fail to bring out the essential features of the disease.

Let us, then, turn to the conditions themselves — to the clinical symptoms and the lesions of broncho-pneumonia as we all can see them for ourselves.

To approach the subject properly, we must consider the symptoms and lesions of acute bronchitis as well as those of broncho-pneumonia.

First, then, of *acute catarrhal bronchitis*. This is a disease of very common occurrence, especially in children, but one which seldom proves fatal. Our knowledge of its lesions is derived from exceptionally severe cases, from cases which are complicated by other diseases, and from the symptoms which we observe during life.

The inflammation involves regularly the trachea and the larger bronchi, less frequently the smaller bronchi also. As a rule the bronchi in both lungs are equally affected.

The first change seems to consist in a congestion and swelling of the mucous membrane of the bronchi with an arrest of the functions of their mucous glands. This is attended with pain over the chest, a feeling of oppression, rapid or asthmatic breathing, and a dry cough.

Fever and prostration are present in a degree corresponding to the extent and severity of the inflammation and to the age of the patient.

After this the mucous glands resume their functions with increased activity, the congestion and swelling diminish, there is a more rapid desquamation of the superficial epithelial cells, an increased growth of the deeper epithelial cells, and a moderate emigration of white blood cells. Sometimes the red blood cells also escape from the vessels.

The patient now has less pain and oppression, the cough is accompanied with an expectoration of mucus, mixed with epithelium, pus, and sometimes blood. After death the only lesions visible are the increased quantity of mucus, the growth of new epithelium, a few pus cells infiltrating the stroma of the mucous membrane, and sometimes a general congestion. If the smaller bronchi are involved they contain pus cells.

In a moderate number of cases, especially in very young children, certain accessory lesions are added. There may be a general congestion of the parenchyma of the lung, and even a filling of some of the air vesicles with inflammatory products. Still further, the filling of the small bronchi may lead to the collapse of the groups of air vesicles to which they lead, and thus are produced areas of atelectasis, which may be further changed by inflammatory processes.

In acute catarrhal bronchitis, then, the inflammation involves regularly only the mucous membrane of the bronchi; and in this mucous membrane the only changes are: congestion, swelling, changes in the epithelial cells, and in the functions of the mucous glands.

As complicating conditions, we may find atelectasis, congestion of the parenchyma, and areas of diffuse pneumonia.

Now let us consider the lesions and symptoms of broncho-pneumonia.

This disease is of common occurrence in children as an idiopathic inflammation, and as a complication of measles, whooping-cough, scarlet fever, and diphtheria. In adults it occurs less frequently, but in them also it may be idiopathic, may complicate the infectious diseases, and may follow injuries of the brain and spinal cord. Constitutional syphilis also may give rise to broncho-pneumonia, and in pulmonary phthisis this same inflammation constitutes an important part of the lesions.

In children, while the inflammation always presents the same essential characters, yet there is considerable diversity, both in the symptoms and in the lesions, in different cases. Thus, in infants a few weeks old, often the only symptoms are rapid breathing, a febrile movement, prostration, and death.

In older children there are well-marked constitu-

[1] Read before the Pathological Society of Philadelphia, October 23, 1884.

tional disturbances — fever, prostration, and cerebral symptoms; in some cases the cerebral symptoms being excessively developed. The breathing is rapid. There may be cough. The physical signs are those of bronchitis alone, or of bronchitis with consolidation of the lung. If there is consolidation it is developed slowly, and disappears slowly. Not infrequently successive portions of the lung become consolidated. The disease terminates in the death of the patient, in recovery, or it assumes a chronic character. This disposition of the broncho-pneumonia to become chronic is one of its characteristic features, a feature in which it differs from acute bronchitis and lobar pneumonia. The cases vary, however, as to the degree in which the disposition is carried out.

In some children the disease after running its regular course of one or two weeks subsides, the constitutional symptoms are less marked, the child seems better in every way. But yet the physical signs of consolidation continue, there is still a slight rise of temperature, and convalescence does not fairly begin. In this condition the child may remain for a number of weeks and then get entirely well, except that the percussion note and the breathing remain somewhat changed.

In many such cases as these the recovery is permanent and the child has no further trouble. But in other cases, after the lapse of several months, the child is attacked with acute general tuberculosis. Thus it is not uncommon in children's asylums for an epidemic of measles complicated with broncho-pneumonia to be followed after the lapse of a year by an epidemic of acute tuberculosis.

In other children the course of the disease is more protracted. The physical signs of consolidation continue, there is a febrile movement, the child has no appetite, it gradually emaciates, and dies at the end of several months. These cases resemble pulmonary phthisis in their symptoms, but they are really only examples of a broncho-pneumonia which has become chronic.

In still other children the physical signs and the constitutional disturbances continue, but the child does not succumb to the disease. It continues to live with the evidences of a chronic bronchitis which go on year after year. So the child may grow up to adult life, sometimes better, sometimes worse, never entirely well. Cough, expectoration, dyspnœa, occasional fever harass the patient at intervals. The lung becomes more and more solid, the bronchi more dilated, the pleura thicker, and the affected side of the chest more retracted.

In the cases of acute broncho-pneumonia which die within from two days to three weeks there is some variety in *the post-mortem appearances*.

The lungs may be large and well aerated, but on section the cut ends of the medium-sized and smaller bronchi are unusually prominent and thick, and around them are little zones of hepatization of red, or gray, or white color. This appearance of the lung may be further modified by a cylindrical dilatation of the thickened bronchi.

In other cases the lungs are denser and more congested, and a larger or smaller portion of them is consolidated. The consolidation portions are unaerated, dense, and smooth, of red color, or pinkish gray, or dark red. Or the color may be mottled, — small, rounded gray or whitish areas surrounded by red hepatization.

The distribution and extent of the consolidation also vary. The hepatized areas may be small, encircling the bronchi, and situated at some distance from each other. Or they may in some one lobe or part of a lobe be close together, and between them is a more diffuse hepatization so that this part of the lung may be completely solid.

The appearance of the consolidated lung may be further changed by a cylindrical dilatation of the bronchi.

In still other cases the consolidated portions of lung are of some size and of somewhat regular shape, as if they were portions of lung corresponding to bronchi. These portions are dense, unaerated, of dark-red color, and somewhat shrunken.

If the inflammation has become chronic, then over one lobe or part of a lobe the pleura is thickened, bands of fibrous tissue run into the substance of the lung, and the lung tissue is dense, hard, and unaerated.

When we examine these lungs more minutely we notice first some peculiarities which belong to them because they are the lungs of children and not of adults. The bronchi and the connective tissue framework of the lungs occupy a larger relative space than they do in the lungs of adults; and in any inflammation of the lungs they are apt to take a more prominent share. The air vesicles are small, and products of inflammation which have been formed within them are absorbed slowly and with difficulty. The walls of the vesicles are lined with a nearly continuous layer of epithelial cells. When the vesicles are inflamed there is a greater production of new epithelium and a less of fibrine than in adult lungs. The small size of the air vesicles render a simple congestion and dilatation of the capillary vessels within their walls a more serious condition than it is in adults. The bronchial glands are more regularly and intensely inflamed. These peculiarities of the child's lung seem to account for its liability to certain forms of inflammation.

The same exciting causes apparently produce in a child under five years of age broncho-pneumonia; in a person between the age of five and fifteen broncho-pneumonia or lobar pneumonia; in an adult lobar pneumonia.

Now let us consider more in detail the lesions of broncho-pneumonia in children.

The trachea and large bronchi are congested and coated with mucus, as in acute bronchitis; but in the smaller, and to a less extent in the capillary bronchi, the changes are of a different character. In these small bronchi the entire thickness of their walls is infiltrated with cells, — partly new connective tissue cells, partly pus cells. This change may affect the small bronchi equally in all parts of the lungs, or it may be confined to those situated in one lobe or part of a lobe.

Around every bronchus, of which the walls are infiltrated with cells in this way, is a zone, either of intense congestion or of pneumonia, the inflammation extending directly outwards from the bronchus to the surrounding vesicles.

In the zones of peribronchitic pneumonia the walls of the air vesicles are infiltrated with cells in the same way as are those of the bronchi. The cavities of the vesicles are filled with pus and epithelium, or with an organized tissue composed of a basement substance and cells.

These constitute the essential features of the lesion,

— a bronchitis which involves the *walls* of the bronchi, and a pneumonia which involves the vesicles *surrounding* the bronchi, and which produces changes in the *walls* of the vesicles as well as in their cavities, while the inflammatory products within the cavities of the vesicles are not only pus and fibrine, but also organized tissue.

To these essential lesions are often added other accessory changes. The bronchi, of which the walls are infiltrated with cells, may be dilated. Between the zones of peribronchitic pneumonia the lung is congested, and there may be areas of diffuse red hepatization, which do not, however, correspond to bronchi. There is often a layer of fibrine on the pulmonary pleura. There may be areas of atelectasis corresponding to obstructed bronchi.

The bronchial glands are swollen, and the seat either of simple or of tubercular inflammation.

When the broncho-pneumonia passes into the chronic condition the inflammation usually persists only in part of a lobe, or a single lobe, while the rest of the lungs return to a normal condition. In that portion of the lung in which the inflammation persists we find the small bronchi with their thickened walls and their zones of peribronchitic pneumonia. The number of bronchi involved may be moderate, and then a section of the lung will look as if it were studded with fibrous nodules. Or most of the bronchi may be involved, the zones of peribronchitic pneumonia are close together, and the entire lung tissue is dense and solid. In either case the bronchi may be dilated and the pulmonary pleura thickened. As the inflammation goes on its interstitial character becomes more and more marked, until the affected portion of lung becomes converted into a mass of fibrous tissue, in which the bronchi still remain, while the air vesicles are obliterated. The blood-vessels, however, are for the most part not obliterated, so that the lung does not become necrotic or degenerated. Still occasionally areas of cheesy degeneration exist.

These are the characteristic features, then, of the broncho-pneumonia of children.

In adults broncho-pneumonia occurs in one of four forms: As an idiopathic inflammation of acute and severe type. As a subacute inflammation. As a complication of the infectious diseases and of lesions of the brain and spinal cord. As one of the lesions of phthisis.

(1.) *The acute, idiopathic broncho-pneumonia of adults.*

The invasion of this disease is acute and severe.

The patients have rigors; pains in the head, back, and chest; vomiting and marked prostration. The temperature runs between 102° F. and 105° F.; the pulse is rapid; the breathing is rapid and unsatisfactory. There is cough, at first dry, later accompanied by profuse muco-purulent and bloody expectoration. There is venous congestion of the skin, albumen in the urine, and cerebral symptoms. When we examine the chest we find the percussion note normal, or exaggerated, or dull. There are crepitant, subcrepitant, and coarse râles with sibilant and sonorous breathing.

The cases usually terminate fatally in about seven days. After death we find both lungs large, heavy, and congested. There is fibrine on the pulmonary pleura. The trachea and large bronchi are congested and coated with mucus. The smaller bronchi contain pus, their walls are thickened and infiltrated with cells, and around them are zones of air vesicles with their blood-vessels gorged with blood, and in their cavities epithelium pus and fibrin.

(2.) *The subacute broncho-pneumonia of adults.* This is a rare disease. It has a clinical history much resembling that of acute phthisis.

The patients are attacked with prostration, fever, cough, and muco-purulent expectoration, dyspnœa, pain in the chest, coarse râles all over the chest, with dullness over the consolidated portion of the lung. These symptoms continue, the patients lose flesh and strength, and die at the end of several weeks.

After death we find fibrine on the pulmonary pleura. The larger bronchi are congested and coated with mucus. There is an irregular, diffuse red hepatization mottled with small white nodules from the size of a pin's head to that of a pea. In the diffuse red hepatization the air vesicles are filled with pus, epithelium, and fibrine. The white nodules correspond to sections of bronchi with zones of peribronchitic pneumonia. These bronchi are of small size, they contain pus, their walls are thickened and infiltrated with cells, and they may be dilated.

In the peribronchitic zones of pneumonia the walls of the vesicles are thickened and infiltrated with cells, but the blood-vessels remain pervious and can be injected. The cavities of the vesicles are filled not with pus and fibrine alone, but also with a basement substance of homogeneous or finely fibrillated character, in which are imbedded polygonal, round, and fusiform cells.

(3.) *The complicating broncho-pneumonia of adults.* It is not uncommon for some of the infectious diseases, and some of the lesions of the brain and spinal cord to be accompanied by the development of this form of inflammation of the lung.

In typhoid fever we sometimes find a broncho-pneumonia exactly resembling the same lesion as it ordinarily occurs in children.

In pyæmia the inflammation is of the same kind, but is apt to be less extensive, involving only part of one or both lungs.

With lesions of the brain and spinal cord the changes are the same as with pyæmia.

(4.) *With phthisis,* both acute and chronic, broncho-pneumonia often forms an important part of the morbid changes in the lungs, but yet it is never the primary or the only lesion. It is only one of a number of pathological changes which go to make up the complex whole of pulmonary phthisis.

From what has been said, then, I would draw the following conclusions: —

There is a form of inflammation of the lung which may properly be called broncho-pneumonia.

In children it is the most frequent form of pneumonia, in adults it is less common.

It differs from bronchitis and from lobar pneumonia in that the inflammation effects changes in the *walls* of the bronchi and of the air vesicles, and this peculiar interstitial character of the process exists from the very outset.

The inflammation extends from the bronchi, not to the group of air vesicles into which they lead, but directly outwards to the vesicles which surround the inflamed bronchi, and in these vesicles the walls are changed.

The interstitial character of the inflammation is its most important feature. It accounts for the severity

of the symptoms, the frequent long continuance of the consolidation, the dilatation of the bronchi, and for the tendency of the broncho-pneumonia to assume a chronic character.

The complicating tubercular inflammation of the bronchial glands may give rise later to general tuberculosis.

Broncho-pneumonia is not a form of phthisis; it is doubtful if it is ever directly followed by phthisis; but it constitutes a part, and often an important one, of the lesions which constitute phthisis.

I have endeavored to describe in a somewhat incomplete way the characteristic symptoms and lesions of an ordinary disease. I am well aware that I have described conditions which are familiar, and that nothing which I have said has not been said before.

But the very common occurrence of this form of inflammation of the lung renders it all the more important. The varying character of the lesions has confused their essential and their accidental characters, and I think it is worthy of consideration whether the views which I have advanced concerning the pathology of the disease are not the true ones, namely, that the inflammation is essentially and from the outset an interstitial one, more or less complicated by other conditions.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M. D.

ENKATARRHAPHIA OF EPITHELIUM.

The artificial production of tumors in animals has often been attempted in the hope of discovering the laws governing their development in man. Thus far but little success has been obtained, especially in the production of a new and atypical growth of epithelium. The experiment has usually been based upon the transplantation of a portion of tissue directly from one spot to another. Kaufmann[1] has varied this by leaving the skin in connection with its own subcutaneous tissue, but at the same time surrounding it by connective tissue. This is easily accomplished as follows: A small oval cut (five to ten mm. long by two to four mm. wide) is made through the epidermis, and the adjacent edges loosened. These are then raised over the included bit and united by fine sutures. In very thick skin they must be undermined for a short distance, in order that they may be joined over the sunken portion without tearing. If the wound heals by first intention there is an epithelial layer nourished from its own base and touched on all sides by fibrous tissue.

In hairy animals this succeeded with difficulty, as although the wounds readily closed they rarely remained so for any length of time. It was then suggested to operate upon the combs and wattles of fowls, which are absolutely hairless and without glands of any sort. Several places could be used at the same time upon the same bird, and could be cut out for examination whenever wanted. In this way the process was followed to the two hundred and tenth day.

In the successful cases the result was constant. The epithelium never disappeared, but continued to grow.

In the earliest days it remained flat, and covered the underlying tissue, which was rich in engorged blood-vessels, and only sparsely infiltrated with cells. No strain was exerted upon the inclosed piece, as there was no tendency of the edge to bend up. In a few days more, however, the epithelial line began to assume a bowed shape, due to an increased width, as shown by careful measurements. It continued to grow in this direction until the upturned edges met, and there was thus formed a little cavity lined with epithelial cells. A peculiar fact was noticed, namely, that this new-formed layer exceeded the old in thickness, and that desquamation was more abundant from the upper (new) layer than from the lower (original) layer. In no case was there ever the faintest trace of growth downward into the corium, either in the form of tongue-shaped projections or nests of isolated cells. With this formation of a wen the end was reached. At the close of the seventh month the cavity was no larger than in the third week.

In the surrounding tissue the cellular infiltration and hyperæmia gradually subsided. The connective tissue became firmer, its fibres and vessels took the regular direction of the fixed corium, from which, finally, it could not be distinguished. If this was all that happened the matter should be left here, but there was an unexpected occurrence which is of importance, and not so easily explained.

In preparations made from specimens of the second or third week there were found groups of large cells scattered throughout the cicatricial tissue or in the immediate vicinity. These were composed of a delicate protoplasm, without marked differentiation of their contour, with large numbers of nuclei, which were in part regularly and in part irregularly arranged. In the elongated cells they lay parallel with the long axis, while in the rounder cells they were parallel among themselves. Such must evidently be giant cells. Here and there they were packed in alveoli, and closely resembled epithelium. Careful histological examination failed to reveal any normal glandular elements that could give rise to them. At first, therefore, the idea was entertained that they arose from epidermis cells which had been loosened and scattered by the operation, and having found a suitable place in the tissue had grown into giant cells. Still they were always found at some distance from the inclosed skin, and separated from it by connective tissue. Moreover, no intermediate stages were ever seen. Giant cells have been found in the vicinity of freshly-healed wounds, and it might be supposed that these were the results of the irritation of the operation. Their life history at once removed them from this class, as they persistently increased in size and number, while those which occur in the process of cicatrization disappeared with its completion.

In the case under observation tumors as large as a bean were formed, and this size was attained about the one hundred and thirtieth day. After that they ceased to grow, but there was no indication of retrograde metamorphosis. From the presence of a little cleft in the middle of one of these clumps, and from the arrangement and shape of the surrounding nuclei, it was probable that they were formed in preëxisting spaces, which were most likely to be lymph vessels, these having been obliterated by an organization of a thrombus.

The results of the experiments are formulated as follows: —

An atheromatous cyst was formed by the development of the skin which had been buried, — a true epi-

[1] Virchow's Archiv, vol. xcvii, p. 236.

thelial formation, but not to be considered as a proper tumor, and which attained no excessive size.

In the neighborhood of this were giant cell tumors, which presented for many weeks a progressive growth, and even at the end of months showed no signs of degeneration.

HÆMAGLOBINÆMIA.

Under the above title Ponfick[1] has published an article in which he strongly advocates the theory that in hæmoglobinuria the destruction of the red corpuscles within the circulation is the essential part of the process, whether the "cathæmolytic" agent is of a chemical or thermal nature. Therefore hæmoglobinæmia must be considered as a central point, in order rightly to understand the purely secondary symptoms, any one of which by itself is no absolutely essential and regular part of the process. Even the most striking, the presence of hæmoglobine in the urine, can be entirely absent, although the destruction of a large number of colored disks has taken place.

This is with difficulty studied in those cases where the condition has been brought about by the introduction of a poison into the system. As, for example, pyrogallic acid, chlorate of potash, arsenuretted hydrogen, etc. Or where a strong thermal irritation has brought about an intense general reaction of the whole organism.

On the other hand, the influence of hæmoglobinæmia, freed from all complications, can be studied by the injection of dissolved blood into the veins of an animal. This can be obtained by freezing. Or a watery solution of pure hæmoglobine can be used. By such an experiment the author was enabled to follow the fate of the destroyed cells through all their changes. From this it appeared that the remains of the colored elements were taken up by the spleen. And this was so quickly done that a marked swelling of the organ took place — a "spodogenous" splenic tumor (from σποδός, the sediment). It was not permanent, and disappeared in the course of a few weeks.

It was much more difficult to follow the blood coloring matter that was at once freely mixed with the plasma. This does not, as is generally supposed, seek the kidney, but is taken up by the liver, which consequently secretes bile extremely rich in coloring matters. All the hæmoglobine that does not exceed a sixth of the entire amount in the body can be eliminated in this way. But from the moment when this limit is exceeded the kidneys begin to come into play, and hæmoglobinuria is associated to the hypercholia.

These latter organs are extremely sensitive to its passage. If the accumulation in the blood is only slightly increased it is precipitated in the renal tubules in the form of granular masses, which may cause their closure, and thereby lead to a cessation of the entire secretory process. In this lies the chief danger.

The author distinguishes three degrees of hæmaglobinæmia: —

(1.) The spleen and liver dispose of the constituents of the red blood corpuscles, while the kidney takes no part in the work.

(2.) The kidneys also act in eliminating the hæmoglobine, and can complete the work.

(3.) The quantity is so great that it cannot be gotten rid of, even in this way, and death follows from uræmia and hæmoglobinæmia.

[1] Berlin. klin. Wochen., 1883, No. 26.

In regard to icterus, in such cases it is hæmatogenous in nature, and arises from the progressive metamorphosis of hæmoglobine into bilirubin within the circulation. This, of course, can only take place when so much coloring matter has been set free that it cannot be taken out of the circulation by any of the three ways of egress. This can only complicate cases of the second and third groups.

In connection with this work of Ponfick, the changes in the liver and kidneys after poisoning by glycerine, pyrogallic acid, and toluyltediamine were studied by Afanassiew.[2] The doses were regulated so as not to kill the different animals by a fatal hæmoglobinuria. From the experiments the following results were obtained, which show more clearly the relation between the icterus and the presence of blood-coloring matter in the urine: —

(1.) Glycerine acts chiefly by withdrawing the hæmoglobine from the corpuscles and distributing it through the plasma. In the blood no fragments of the cells were detected. The kidneys are the active organs in elimination, and icterus does not occur. This is parallel to the cases of paroxysmal hæmoglobinuria in man.

(2.) Toluylendiamine, on the other hand, causes minute fragments to be separated from the colored elements. These, as well as the distorted and decolorized corpuscles, are taken up by the spleen, liver, bone, marrow, and also by the kidneys, but to a less degree. There is no dissolved hæmoglobine in the serum, and consequently none appears in the urine, but jaundice, of the hæmohepatogenous kind, is a marked symptom.

(3.) Pyrogallic acid occupies a middle place in its action, causing both a disintegration of the cells and a solution of the coloring matter.

The changes in the liver and kidneys vary with the agent and the length of time that it is employed.

(1.) After the use of glycerine there was found a glomerulo-nephritis, with fatty degeneration and coagulation necrosis of the convoluted tubes. By frequent repetitions there occurred an infiltration of round cellular elements, especially about the point of entrance of the vessels into the capsule, and hæmorrhage into the tubules.

There was a moderate fatty degeneration of the cells of the liver.

(2.) After poisoning with pyrogallic acid the same effects were found in the kidneys. In the liver there was a fatty degeneration, with coagulation necrosis, and a slight cellular infiltration about the central vein and in the interlobular spaces.

(3.) When toluylendiamine was employed the liver suffered most, although the kidneys participated to such a degree that a contraction of the glomeruli took place.

That these changes were not brought about by the passage of the poisonous substances through the liver and kidneys, but entirely by the free hæmoglobine and bits of the destroyed disks, was proved by the infusion of defibrinated blood warmed to 53° or 57° C.

The author describes the affection of the kidney as glomerulo-nephritis hæmoglobinurica, and in its later stages as nephritis interstitialis hæmoglobinurica, while that of the liver as hepatitis interstitialis ex ictero-hæmo-hepatogeno.

Among horses hæmoglobinæmia has been observed to occur spontaneously, and Frohner[3] has made it the

[2] Fortschritte der Medecine, 1884, p. 284.

[3] Arch. f. Wissensch. u. prakt. Heilk., Bd. x., and Fortschitte der Medecine, 1884, p. 614.

subject of an inaugural dissertation. In this animal the noxious material is not only taken up by the liver, spleen, and kidneys, but also in extreme cases by the marrow of the bones. At the autopsy the blood and muscles presented characteristic appearances. The first contained free coloring matter, as well as urea and extractive materials. The latter were of a clear, pale-red color, and swollen from infiltration and œdema. Under the microscope there was seen in places a granular degeneration, in others a breaking up into hyaline scales, with loss of striations. From the absence of fever and of characteristic post-mortem appearances the author denies the infectious nature of the disease, which has been maintained by others, and attributes it entirely to catching cold.

THE WHITE INFARCTION OF THE PLACENTA.

This affection, to which Ackerman[1] calls attention, is of frequent occurrence, but he thinks that its true pathology has never been rightly understood.

The spots are sharply defined, but there is great variation in the form, size, color, and consistency of the portion involved. The usual shape is that of a wedge, and it is this, combined with the constant presence of fibrine, that has given rise to the term of "fibrine wedge." Often, however, it is more round or polyhedral, with a sinuous border. This last is often thrown out into true arms or projections, communicating with each other, at times so extensively as to completely mask their starting point. The color is generally a dirty white, at times a light yellow, in its earlier stages a red. In the central portion there are present illy-defined, pale yellow lines, or small rounded or elongated, glancing white elevations, usually marked by greater firmness. The volume varies as greatly as the form. The smallest scarcely reaching the size of a bean, the largest that of a walnut, or if extended more horizontally a dollar. In the last case they have their seat in the uterine surface of the placenta. In the more nodular form they generally go from one surface to the other, above which they may project, owing to their greater consistency. When very small they may lie buried completely in the placental tissue. When near the edge of the placenta they are more apt to assume the shape of a ring or narrow stripe.

From the constant presence of fibrine the older authors had looked upon them as the product of inflammation. Later the idea prevailed that they were due to hæmorrhage with organization of the fibrine, and finally some peculiar exudation was made to do duty as the cause. Ch. Robin was the only author who referred this, with other allied forms, to a fibrous degeneration of the placental tufts. This rendered the vessels impervious to the passage of blood, and was regarded as identical with the normal atrophy of the fringes of the chorion, which do not participate in the development of the placenta. Maier,[2] who has also carefully studied these changes, referred the entire process to the decidua serotina. He regarded the nodules as due to the effect produced by the growth of the projections which the serotina sends off between the cotyledons and separate villi, and which destroy the latter by the pressure exercised upon them. All the other authors regarded the connective tissue as resulting from the formation of the fibrine, while he refers it to grow from the granulation tissue accompanying these projections. Langhans referred the origin of the fibrine to the extremely thin layer which is normally present on the placental side of the chorion, even in maturity. It usually does not exceed a few hundredths of a millimetre, but in restricted places attains the thickness of a centimetre. He has called attention to the existence of numerous channels, and therefore regards it as of a peculiar nature, and calls it canalized fibrine.

These nodules are in many cases separated from this normal layer on the side of the chorion by normal placental tissue, and it is difficult to conceive how they can be derived from it. Minute examination shows that they are composed of three parts, namely, fibrine, placental tufts, and connective tissue. The first occurs either in continuous masses or surrounds the villi in broader or narrower bands, causing them to look as if imbedded in it. In either case the fibrine presents itself in two forms, either as a coarse or fine meshed network, or as a more compact homogeneous substance traversed by canals. The former differs in no material respect from the net-like arrangement of an ordinary fibrinous exudation. The formation of canalized fibrine has been the subject of much discussion.

In its general character it corresponds to the hyaline variety, about which so much has been said of late. It swells up in acetic acid. Is colored easily and intensely by ammoniacal carmine and eosine. Hæmatoxylon tinges it but slightly, and gentian violet not at all. Picro-carmine is especially adapted for its investigation as the hylanic fibrine, as well as the villi that show the same degeneration, assumes a yellowish-red color, while the true connective tissue remains clear and the nuclei of active cells are stained of a deep red.

Large cellular elements are met with entangled in the meshes. These are of a round or elongated form with a single nucleus in the centre. The circular ones have a diameter of from twenty to forty μ; the oval ones can reach eighty μ. They lie irregularly scattered or are accumulated into masses recalling the arrangement of epithelium. They correspond to the cells often described as being found in the pars caduca placentæ maternæ and its prolongations between the villi and cotyledons. In spite of their inclusion within the fibrinous mass they do not seem to have undergone its degeneration, as they present a clear, sharply-bounded protoplasm and an easily colored nucleus. On the other hand, they are at times entirely destroyed by fatty change. Finally it is to be noted that lime salts are frequently found in the coagulated material. These have an irregular, polyhedral form with jagged projections, often united with each other.

Besides the fibrine the villi form a considerable part of the infarction. They are immovable, and, as a rule, their vessels are impervious. The nuclei disappear after they have first become disintegrated and granular. Lastly the whole tuft is transformed into a translucent, homogeneous mass, which at times is permeated with fine granules or by delicate fibres running irregularly. Similar changes have also taken place in the epithelial covering. These cells lose their nuclei and are transformed into a glancing, homogeneous, or finely granular protoplasm.

The third constituent is found chiefly as new-formed connective tissue in the neighborhood of the large placental vessels. This is often extremely voluminous, appearing as broad rings on cross section, inclosing either the artery alone or it together with its vein, and is to be regarded as a periarteritis. At times this also

[1] Virchow's Archiv, Bd. xcvi., s. 439.
[2] Virchow's Archiv, Bd. xlv., s. 305.

undergoes the general hyaline degeneration. When such vessels lie within the infarction they are also found to be occluded. The method of closure varies. In places an intravascular coagulation of fibrine causes it; in others it is brought about by a proliferation of the intima.

The author regards the changes as above described as belonging to the category of those produced by coagulation necrosis. As the primary cause is to be considered the periarteritis fibrosa multiplex, the frequent occurrence of which in the placenta has still to be explained. The partial and finally entire stoppage of the arteries leads directly to anæmia, disappearance of the nuclei, coagulation necrosis of the cells, and finally hyaline degeneration of the villi and epithelium covering them.

He considers it more difficult to bring the fibrinous coagulation between the villi under this head. An exudation would be the most natural assumption, especially when it is remembered that in the white infarction of the kidney there is a thread-like coagulation which, according to Litten, owes its origin to a croupous exudation into the tubules. At the same time it is hard to conceive how this could have taken place through the obliterated vessels in the present case. It would be much easier to refer it to the necrosed epithelium and coagulation of the plasma of the blood circulating in the intervillous spaces. Then the process would be analogous to coagulation as it occurs in the blood-vessels and heart after necrosis of the endothelium, a ferment being produced by the destruction of the epithelial cells of the tufts, which could cause the fibrinogenous material present in the blood to coagulate. And in this way the entire process can be regarded, just as in the kidney, as the result of an ischæmic necrosis.

Hospital Practice and Clinical Memoranda.

CARNEY HOSPITAL.

CASE OF DIAPHRAGMATIC HERNIA. IN SERVICE OF M. F. GAVIN, M. D.

REPORTED BY W. J. GLEESON, M. D.,
House Surgeon.

JOHN E. P., a laborer, aged thirty-four, was pushed from a horse-car while it was in motion, Tuesday evening, October 14th, and in falling caught and clung to the dasher, and was dragged along by the car. He was perfectly conscious all the time, but after the accident was unable to walk or stand, and was carried home.

He entered the hospital Thursday, the 16th, complaining of sharp pain in left side, slight pain in lumbar region, and general exhaustion. Respiration was 40 per minute. On the left side there was dullness up to angle of scapula, and crepitus could be felt in axillary line from fourth to ninth ribs. There were ecchymoses over the sternum, lumbar region, and both eyes. There was no paralysis or trouble with the bladder, but he complained of obstinate constipation existing since the accident, and not relieved by laxatives or enemata. No headache or vomiting. After the ribs had been strapped he went to sleep, feeling in excellent condition. About five P. M. on Friday he complained of severe colicky pains in abdomen, which persisted for some hours. About three A. M. Saturday he showed a desire to go to stool, but could not pass anything in the bed-pan. The nurse attempted to place him in a sitting posture, thinking this might facilitate matters, when he gasped and died.

Autopsy, fourteen hours after death, by the Medical Examiner, Dr. F. W. Draper, assisted by Drs. Hooker and Gleeson, the house officers.

The diaphragm was attached at fifth interspace on left side, and on the right it bulged so as to come down to costal border. In the left mammary line, and two inches behind edges of ribs, was an opening in anterior leaf of the muscle, large as a half dollar, into and through which passed a fold of large intestine. The edges of the rent were rounded, smooth, and easily stretched. The sternum was fractured at junction of manubrium and body. The heart was nearly vertical in position, and the apex an inch to right of median line. The lower three fourths of the left pleural cavity was entirely occupied by folds of intestine, comprising all the jejunum, part of the omentum, a loop of the colon and splenic curve, in all about nineteen feet. This immense mass was distended with gas. In this cavity were also thirty-six ounces of brownish-red serum, while the lung was compressed to the upper and posterior part of the chest and reduced to one fourth its normal volume. In the axillary line on this side the fourth to ninth ribs inclusive were fractured, the ends of the fragments protruding through the parietal pleura. The right cavity contained six ounces bloody serum, and the lung was engorged posteriorly. On this side also the fourth to ninth ribs were broken, but only at the junction of the cartilages, and not completely through. The heart was contracted on the left side, but not on the right, and in the right ventricle was a partly decolorized clot, quite dry. Heart otherwise normal.

From the point of constriction the intestines were injected throughout, and commencing peritonitis was seen in places. The stomach was normal, with the exception of a hæmorrhagic spot at the fundus. The kidneys were surrounded by extravasated blood, but otherwise normal. The subperitoneal tissue in the right iliac region was well filled with blood also. There was preternatural mobility at the first lumbar vertebra, and it was found that a piece of the size of the thumb-nail was chipped off from the right inferior border, though the spinal canal was apparently intact.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

AT a stated meeting of the Academy, held Thursday evening, November 6th, DR. R. W. AMIDON read a paper on

THE PATHOLOGICAL ANATOMY OF SENSORY APHASIA,

in which he gave the details of eight cases in which he was able to present plates showing the location of the cerebral lesion. The first of these occurred under his own observation in a woman at the time of the menopause. There was incoherence of speech only when the patient answered questions. As a rule, she understood nothing that was said to her, unless it was accompanied with gestures; but gestures she comprehended perfectly. Death occurred fifteen months after

the first attack. The brain, together with a photograph representing the location and appearance of the lesion, was exhibited. The other seven cases, reported by different writers, as well as sixteen additional ones to which he merely referred in passing, as they were accompanied by no plates, he had collected from various sources in order to make the bibliography of the subject as complete as possible.

Next was read a paper by Dr. Frank H. Hamilton, entitled

THE ASIATIC CHOLERA AT SUSPENSION BRIDGE IN 1854 AND ITS LESSONS — WHAT WE KNOW ABOUT CHOLERA.

The epidemic of cholera at Suspension Bridge, two miles from Niagara Falls, occurred in the month of July, 1854, and was of a very fatal character. It commenced among some emigrants who were temporarily detained in the vicinity, and by whom the cholera infection was undoubtedly introduced into the place; and from them extended to the laborers who were engaged in the construction of the suspension bridge across the Niagara River. Many cases ended fatally within six hours, and the panic was indescribable. Dr. Hamilton thought that the violent character of the outbreak was due to the elevated temperature and moist condition of the atmosphere prevailing at the time, to the low position of the dwellings of the victims and alluvial nature of the soil, and to the fact that the ground had recently been upturned. Although carried to several of the neighboring towns, the disease did not spread in any of them, as the same favorable conditions for its development were not present in them.

Passing on to speak of the present state of our knowledge of the disease in general, Dr. Hamilton remarked that, however probable it was that such was the case, we had as yet no positive knowledge that there was a specific cholera germ. He then gave a review of the researches of Koch and other observers up to the latest dates, and went on to say that even if it should be established that the comma bacillus or other microbe was always present in cholera, and never found except in cases of this disease, we could not say whether it was really the causative agent or simply one of the results of it. It seemed quite as likely, he thought, that the infection was conveyed by the fluid in which the microbes were found as by these organisms themselves. While he was very far from wishing to underrate the value of microscopic studies he thought it was certainly a fact that not a single advance in the treatment or prevention of cholera could be attributed to the result of such investigations. For all our practical knowledge of the disease we were indebted to experience.

Having spoken of the modes in which the infection of cholera might be carried to different places, he said that the hypothesis of Koch that it entered the human system solely through the alimentary tract was by no means proven, and that there was considerable evidence to show that it also entered by means of the respiratory organs and was diffused through the circulatory system. He next spoke of the conditions favorable to the development of the disease after the infection had been introduced into a locality, many of which were present at Suspension Bridge at the time of the outbreak there. Unless the germ found a suitable soil in which to grow, cholera could not become epidemic; so that when cases of the disease were brought to places where the conditions were unfavorable to it, they were simply like the brands from a conflagration falling in spots where there was no inflammable material to be ignited by them, and therefore harmless. In this connection Dr. Hamilton related a number of instances to show how favorable low and alluvial soils, and especially freshly upturned earth, were to the development of cholera.

As to the treatment of cholera no specific had as yet been discovered, and, considering the long time that had now elapsed since the disease had been known, it was scarcely probable that one ever would be. Experience, however, had taught us how to deal with it more successfully than with any other similar epidemic. The disease could always be aborted if taken in hand in time; and the great means at our disposal for arresting it were opium and absolute rest. Opium was better than morphia, as it was less liable to disagree with the stomach, and it was better, as a rule, to give it in a solid than in a liquid form. From half a grain to one grain of the drug might be given every three or four hours until the diarrhœa was checked or narcosis was induced. There was, however, no necessity for producing profound narcosis, and this was certainly to be avoided. In case the intestinal canal contained irritating matter, it would be advisable to precede the administration with a brisk purgative. If the parasitic theory of cholera were correct, he thought that the usefulness of opium in the disease might be explained on the hypothesis that it kept the secretions in a normal condition until the activity of the microbes had ceased; most observers agreeing that their period of activity was very brief.

Having recapitulated some of the lessons to be derived from the Suspension Bridge epidemic, he remarked that if cholera should reappear in the city of New York he did not believe that it would spread as it had recently done at Toulon, Marseilles, and Naples, because here the climate was more favorable, the sewerage was better, there was not so much low ground, the sanitary regulations were better, and there was not such a large proportion of the filthiest and lowest class of the population. In conclusion he spoke of the prompt and efficient action of the New York Board of Health in stamping out cholera in former years, and referred to the successful arrest of the disease under his own direction at the work-house on Blackwell's Island in the summer of 1866.

Dr. Leroy M. Yale, who was a house surgeon on the island at the time, and who made a full report of the outbreak to the Commissioners of Charities and Correction, at the request of the Chair, gave some account of the way in which the disease spread and the means that were employed for its suppression at the work-house. The epidemic commenced on the 1st of August, and during the summer up to that time there had been an unusually large number of cases of diarrhœa, as well as of severe cholera morbus, among the inmates of this and other institutions on the island. On August 1st there were sixteen cases, and August 2d thirty-two cases, with twenty-three deaths. On this day the mortality amounted to five and a half per cent. of the total population, and on the day following to five and six tenths per cent.; but within four days it was reduced to less than one per cent. Not a single patient died in whose case treatment was commenced while the initial diarrhœa continued, and Dr. Yale thought that this outbreak taught very strikingly the fact that if,

with the enforcement of strict sanitary precautions, cases could be treated in the early stage of diarrhœa, every epidemic of cholera could be speedily suppressed.

DR. DELAFIELD thought that all would be willing to grant that cholera was an infectious disease. In regard to its having a specific germ, the latest theory of the latter was in accordance with the prevalent opinions of the times. To refer the origin of infectious diseases to certain minute organisms was the present fashion, and such fashions, whether good or bad, it generally took a long time to obliterate. The development of cholera, in accordance with this prevalent fashion, was thus referred to a particular microbe, and though Dr. Hamilton had, in his paper, stated very fairly the evidence for and against this hypothesis, he had omitted to state that out of a considerable number of investigators the testimony of an exceedingly small proportion of them could be accepted as thoroughly reliable. The technique of such microscopic researches was of so elaborate and difficult a character that the number of competent witnesses must necessarily be very small. The conditions to which Dr. Hamilton had referred as favorable for the development of cholera might be stated, he thought, to be those which were peculiarly favorable to diarrhœal disease in general. Whatever conditions would aid in the causation of diarrhœa would, therefore, render an epidemic of cholera likely to occur in case the special poison of that disease should be introduced into any locality where they existed; and, on the contrary, if this germ were introduced into a place where such conditions did not prevail there would be little danger of cholera spreading there. This evident fact seemed to indicate very clearly the rational means for the prevention of cholera, for while the importation of the disease could hardly be avoided without enforcing a quarantine so strict as to be entirely prohibitory of all commerce, the spread of cholera could certainly be successfully interfered with by the removal, as completely as possible, of all causes predisposing to diarrhœa.

DR. LOOMIS made some remarks in which he said that the first thing to determine was in which of the three classes of infectious diseases Asiatic cholera was to be ranked: those in which the causative agent was developed within the body, rendering the disease directly transmissible from the infected to the non-infected, as was the case with typhus fever and the exanthemata; those in which the morbific agent was developed outside of the body in decomposing organic matter, and was introduced into the system through the agency of water, the atmosphere, etc.; or those in which the specific poison was developed within a living organism, but was in a passive state at the time of leaving it. It was in this third class, in which it was necessary that the agent should undergo certain changes in connection with decomposing organic matter after it had left the body before it was capable of giving rise to infection, that cholera, he thought, ought to be placed. In this respect it was analogous to typhoid fever and yellow fever. Having referred to the fact that cholera was indigenous only in Bengal, and was never of spontaneous origin in any other part of the world, he proceeded to examine some of the characteristics of its spread into different localities and nations. That there was a specific cholera germ he had no doubt, and he also believed that in a large proportion of cases this entered the system through the alimentary canal. He thought, however, that it had by no means been proved that this was the sole way in which this occurred. In all epidemics of the disease there were certain nervous phenomena which indicated that the germs sometimes got into the blood also, and he thought that all we could say at the present time was that the cholera poison undoubtedly entered the body through the mucous membrane. While this, no doubt, generally took place by way of the alimentary tract, it seemed true that it also sometimes occurred through the respiratory organs, whence it obtained access to the blood. Human excrement had long been recognized as the most fruitful source of cholera infection, and most authorities agreed that the agency by means of which the infection was spread was usually drinking water or other kind of water. Through drains and sewerage was a very common way, and he thought that the reason that Rome had recently escaped a visitation of cholera, while Naples suffered so severely from the disease, was because in the former city an improved system of both drainage and sewerage had just been completed. From facts recorded at the Bengal cholera hospitals there could be little doubt that the germs sometimes entered the system by means of the rectum and large intestine, the infection being received while the patient was at the privy. While foul water was rightly regarded as almost always a source of great danger, he had seen it stated that the foulest water in India was at a post where the health of the garrison was so good that the government refused to allow any changes to be made with a view to improving it. Though the water was bad in other respects it was evident that cholera germs had not been introduced into it.

He then went on to say that all previous researches in regard to the nature of the specific germ of cholera had been insignificant in comparison with those of Koch, but in order that he himself should be willing to positively accept Koch's conclusions it would be necessary to have established beyond question that the microbe described by him was always present in cases of cholera, that it was never found in any other disease than cholera, that it was never found in the healthy body, and, finally, that inoculation with it gave rise to cholera. As far as he had been able to ascertain these points had not as yet been completely demonstrated by Koch or other investigators of his school. That cholera was a thoroughly preventable disease he thought the history of past epidemics of it unquestionably established.

DR. JOHN C. PETERS thought that the efficiency of a strict quarantine in preventing the introduction of cholera was well shown in the case of Denmark, which, while often exposed to the risk of receiving the disease from neighboring nations, always escaped until she removed the strict quarantine which she had always maintained before, when an epidemic occurred in the country, in which there were seven thousand cases with four thousand deaths. The quarantine was then reëstablished, and there had been no more cholera there up to the present time. The same thing was shown in the case of Greece, into which cholera was introduced by the French soldiers during the Crimean war, but which had always subsequently been free from the disease.

— Dr. Neumann, Professor of Psychiatry at Breslau, died October 10th, aged seventy-one.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

C. B. NANCREDE, M. D., SECRETARY.

THURSDAY evening, September 11, 1884. The President, DR. JAMES TYSON, in the chair.

DR. J. M. BARTON presented a specimen of

CYSTIC-PAPILLARY ADENOMA OF THE NECK,

which he had removed from a patient at his clinic at Jefferson Medical College on September 6th. The patient was a married woman, thirty-one years of age, the mother of three children. The tumor was of slow growth, having existed for five years, and having increased but little in the last two years. It gave no pain and but little deformity. It was about the size of a walnut, and lay beneath the clavicular extremity of the left sterno-cleido-mastoid muscle, in close proximity to both the subclavian and carotid arteries, from which it received a decided pulsation. On strongly pressing the tumor upward and outward the pulsation ceased. The tumor was closely adherent to a number of large veins of new formation, which greatly increased the difficulties of its removal.

On section it presents a number of alveoli of variable diameter, communicating with each other, and lined with a thick membrane similar in appearance to the inner coats of the arteries. This membrane seems to have undergone calcareous degeneration in some portions. When the tumor was fresh these cysts, on incision, were filled with a dark-red fluid like disintegrated blood.

Report of the Committee on Morbid Growths.

"A section made from the tumor of the neck presented by Dr. J. M. Barton shows a stroma of fibrous tissue in which cavities are seen, varying in size, lined with an epithelium having a cuboidal shape. From the margins of many of these cavities papillary ingrowths were noted covered with cylindrical-shaped epithelium. Other cavities are filled with the remains of cells or a structureless colloid-like substance. The tumor may, therefore, be considered a cystic-papillary adenoma, in which a colloid degeneration has occurred, or, from its location, it is not improbable that it may be either an outgrowth from or a supernumerary thyroid gland."

SEMI-ANNUAL CONVERSATIONAL MEETING, OCTOBER 23, 1884.

THE President, E. O. SHAKESPEARE, M. D., in the chair.

DR. FRANCIS DELAFIELD, of New York, by invitation, read a paper on

THE PATHOLOGY OF BRONCHO-PNEUMONIA.[1]

DR. PEPPER said he had listened with very unusual interest to the paper of Dr. Delafield, in which he had so distinctly and concisely set forth his views on this very common disease.

He thought that all who had listened to Dr. Delafield would agree with him in congratulating the author upon the clearness and force with which he had described a condition which had hitherto often been confused by prolix description and by want of definiteness in separating different anatomical conditions. In regard to the term "broncho-pneumonia," which Dr. Delafield prefers, he has proved by his anatomical studies of the infiltration of the bronchial walls and of the surrounding parenchyma that this term is strictly applicable to the cases upon which this paper is based.

Dr. Pepper stated, however, that though chiefly from a clinical stand-point he was inclined to prefer the term catarrhal pneumonia, as probably including the form described by Dr. Delafield, as well as certain other forms which seem to him to be necessarily included in a complete picture of the disease.

For instance, there are many cases in adults which begin with rigor, followed by high fever, with temperature of 102.5° to 104° F., with cough hard and dry at first, and later with muco-purulent expectoration, with no very definite physical signs, careful examination will show local impairment of resonance, coarse crackling râles on deep inspiration, and weak vesicular murmur. This condition may be limited to the apex or to the neighborhood of the root of one lung, or may occur elsewhere. The cases have a duration of from eight to twelve days, and terminate by lysis with resolution, though not rarely some cough remains, and the lung is sensitive and prone to recurring attacks, which in subjects predisposed to phthisis may induce that disease.

It seems to me difficult to regard these cases as anything else than mild catarrhal pneumonia; for this type of pneumonia agrees with other catarrhal affections in the wide range of severity presented by different cases. On the other hand, there are cases much more common in children in which disease extends from the bronchial tubes into the lobules to which they lead.

The commonly accepted opinion that the lining of the alveoli and air vesicles are susceptible to catarrhal inflammation appears to me well established. In such cases the disease may extend outwards to the peribronchial tissue, as emphasized by Dr. Delafield, and lead to secondary interstitial changes, and also in consequence of obstruction of the bronchiatelectasis occurs; the aspiration of irritating bronchial products fills some of the alveoli, or finally they become impacted with the results of catarrhal inflammation of their walls. Subsequently caseation, with softening, may give rise to small abscesses, with breaking down of the walls of the air vesicles, or with perforation of the pleura, or inspissation may occur, with reabsorption of infectious material with the development of general tuberculosis.

It did not seem necessary to dwell upon the cases in which atelectasis occurred as a primary condition with the subsequent development of pneumonic centres.

It seems to him impossible to consider catarrhal pneumonia without taking the comprehensive view which would include all the varieties above indicated; though the term of "broncho-pneumonia," as used by Dr. Delafield, might be most appropriate to the special conditions described by him.

Allusion was made to the very interesting physical signs attending the course of atelectasis in the course of catarrhal pneumonia of children or of adults where considerable areas of the lung, or even an entire lung, might pass into this state, to be followed before long by the reëstablishment of respiration and the disappearance of the physical signs. Difficult questions of differential diagnosis may present themselves, requiring critical examination. From an allusion made by Dr. Delafield it appeared that he regarded lobar pneumonia as being

[1] See page 484 of this number of the JOURNAL.

like broncho-pneumonia, induced by the ordinary causes of idiopathic inflammation. The argument does not favor all lobar pneumonia being a specific constitutional disease, or as dependent upon a special microbe, did not appear to Dr. Pepper to be conclusive, and he was glad to know, from the remarks of Dr. Delafield, that he holds the same view.

DR. BRUEN said he rose to call attention to the observations of Hamilton, of Aberdeen, in reference to the peculiar basement membrane of the bronchial tubes, which determines the chronicity of bronchitis, and probably the interstitial changes in chronic broncho-pneumonia. Hamilton, in speaking of the denseness of this basement membrane, gives it the importance of a fascia, which determines the direction in which the inflammatory products of bronchitis shall be absorbed, namely, by the lymphatics, rather than by free exudation into the bronchial lumen. The interlobular connective tissues are permeated with fibrous bands, which radiate from the fibrous coat of the bronchi toward the pleural surface. Dr. Bruen thought that if careful study of the lymphatics were made the absorbed products of an acute or subacute inflammation could be traced throughout the lung, finally leading to enlargement of the bronchial glands.

The importance of the basement membrane is further illustrated by the phenomena of pneumonikoniosis and anthracosis. Immediate absorption from the bronchial tubes does not occur, although the tubes are always exposed to carbonaceous matter as evinced by the blackened sputa, yet the tubes are unpigmented, the carbonaceous or organic dust being carried down into the alveoli, whence it is absorbed, and the whole parenchyma of the lungs and the bronchial glands are blackened, but always strictly in the course of the lymphatics.

In children of a strumous habit forms of bronchitis of an obscure nature often occur. Congested areas near the root of the lung are recognizable — abundant mucous râles and frequently laryngeal spasm at intervals is an important symptom. These symptoms are often referable to enlargement of the bronchial glands — and the nervous symptoms are due to irritation of the pneumogastric nerves.

DR. J. C. WILSON asked whether Dr. Delafield designed to describe one variety of a group of affections to which the terms broncho-pneumonia, catarrhal pneumonia, desquamative pneumonia, etc., are somewhat vaguely and interchangeably applied, or to include the whole group in his account, and under the designation of broncho-pneumonia. If Dr. Wilson had understood the paper aright, he thought it certainly had referred to an especial variety of the affection in question, for there are encountered cases which differ both clinically and anatomically from the disease described by Dr. Delafield, and in which the lesions spread not only in a direction internal from the affected bronchial tubes to the peribronchial structures, but also in the direction of the long axis of the tubes to involve the terminal (subpleural) vesicles, and this, according to widely accepted views, often without antecedent atelectasis.

DR. CARPENTER said that he had very little, indeed, to give of value in a pathological discussion, but would say at the same time that after thirty years' experience he had arrived at certain conclusions, not perhaps new, but which had been gathered in one set of cases, namely, anthracosis. They are a very striking set of cases. They all originate in a bronchitis, which differs from the ordinary form of that disorder in one very striking symptom, namely, great oppression of breathing. This oppression is far greater than can be accounted for by ordinary bronchial inflammation. It depends on interstitial disease or peribronchitis. A true broncho-pneumonia is set up, the cause being a special one, namely, inhalation of coal dust. In these cases so great obstruction to the circulation is caused by the interstitial exudation that the circulation is very seriously embarrassed. The heart suffers — dilatation, or hypertrophy with dilatation, is produced, and a form of dyspnœa, known as miners' asthma, occurs. These cases are essentially chronic ones. He had only the day before seen a patient die with this disease who had been under his care for several years, and in whom no lesions but those of peribronchitis could be detected.

Many of these cases, however, in a chronic progress, do develop all the symptoms of phthisis. Slow alterations of structure occur, cavities form, and all the pathological conditions of the so-called fibroid phthisis are found on post-mortem examination. He, therefore, claimed that these cases are entitled to constitute a special form of broncho-pneumonia. He agreed with Dr. Pepper that acute or subacute broncho-pneumonia left sensitive areas, leading often to subsequent phthisis. In his observation, fibroid phthisis was not a true tuberculosis, but a chronic degeneration of lung tissue, due to a preëxisting broncho-pneumonia, such as he had observed in anthracosis.

DR. OSLER said that his experience in many points tallied with that of Professor Delafield. In the broncho-pneumonia of adults the pneumonic process, he believed, most usually spreads from the bronchi. He referred also to those cases of broncho-pneumonia which followed brain injury, or disease affecting the pneumogastric centres. In such cases the disease was deeply seated, and we find that the morbid process often surrounds the bronchi, but does not involve the terminal alveoli. The reverse is true in the case of children, in whom the disease is more peripheral, is nearer, and may be just beneath, the pleura. He was glad that Dr. Carpenter had raised the point as to anthracosis. Dr. Osler had been able to examine several cases of this affection in its very early stages, and could testify that it begins in the bronchi and thence extends to the peribronchial tissues. It is primarily, then, a broncho-pneumonia, and in every case he had found small disseminated black lumps resulting from localized broncho-pneumonia, which, by their fusion and extension, produce a form of fibroid phthisis.

DR. TYSON had little to add to what had already been said. He had, however, first expressed his gratification at the simple clearness with which Dr. Delafield had presented the question. Dr. Tyson had been very much impressed with the diversity of nomenclature of the disease under consideration, and it would be useful if we could agree upon some common term. For a long time desquamative pneumonia had seemed to him to be the best term, but from a study of the pathological histology he thought the term peribronchial pneumonia more suitable. If now the adjective desquamative be added we have a term which will be still more comprehensive and exact.

Dr. Tyson thought that our understanding of the enormous peribronchial cellular infiltration would be much simplified if we lose sight altogether of the idea that there is essentially any form of inflammation ex-

cept interstitial inflammation. He had come to the conclusion that there is no such thing as catarrhal or parenchymatous inflammation, the phenomena usually considered characteristic of these being secondary. The wandering out and massing of leucocytes is the one essential factor of the inflammatory process. He would like to ask Dr. Delafield where he would draw the line between this process and tubercular phthisis. He presumed that Dr. Delafield agreed with all other observers in admitting that broncho-pneumonia does sometimes terminate in tubercular phthisis, and when this occurs it is often difficult to say where the broncho-pneumonia ends and where the phthisis begins, although the extremes may be easy of recognition.

Dr. Formad would like to ask the lecturer's instruction how to distinguish broncho-pneumonia in its *chronic* form from *tubercular* broncho-pneumonia. Like Dr. Tyson he felt that he was unable to draw a line of distinction between the two affections. Indeed, Dr. Formad was unaware of a non-tubercular form of broncho-pneumonia in man until he saw Dr. Delafield's excellent records and representations of this lesion, this being explained by the fact that Dr. Formad dealt almost entirely with the dead, while most of the speakers had shown that although broncho-pneumonia in its *acute* form was a common disease it did not prove fatal in the vast majority of cases, the patients either getting well or the disease assuming a chronic course.

Dr. Formad fully recognized *acute* broncho-pneumonia as an independent affection, although he believed he had observed this lesion *post mortem* only in dogs, such as induced artificially by means of forced inhalations of a spray containing irritating particles. Dogs with such artificial broncho-pneumonia (even if tuberculous sputum was resorted to to induce it) Dr. Formad had observed always to recover within a couple of months, but if the dogs were killed before the end of the first month after the operation the post mortem showed invariably an acute broncho-pneumonia not distinguishable from that described by Dr. Delafield as occurring in man. Throughout the lung substance are seen small nodes of irregular outlines, in size resembling tubercles.

Under the microscope these nodules are seen to consist of mere unorganized collections of cells, often in a state of retrograde change and mixed with mucus and débris, this exudate being limited to the lumina of the bronchials and their pertaining groups of air vesicles (the acini) which they fill. On section these artificial boundaries give rise to the appearance of nodes. Very often epithelial cells and mucus from the bronchi have been seen intermingled with the purulent contents within the air vesicles. This suggests that the exudate contained in the latter may have been partly aspired from the bronchi (during forced breathing) and was lodged in the air vesicles as foreign material.

These lesions have been mistaken by stupid observers for true tubercles. *Acute* broncho-pneumonia in man appears to be a lesion perfectly analogous to the one described above in dogs. The human disease once becoming chronic, its distinction from tuberculous broncho-pneumonia ceases.

Dr. Delafield, in closing the debate, said that all the speakers had brought out what was one of the most difficult points concerning broncho-pneumonia, namely, its limitations. Strictly speaking every pneumonia is a broncho-pneumonia, and the application of the term to a certain group of cases is, of course, arbitrary. He believed, however, that the name is most properly employed to designate the group of cases which he had described.

In anthracosis there is a chronic bronchitis and also a chronic pneumonia, but yet the lesion is not, properly speaking, a broncho-pneumonia.

He did not believe that the inflammation traveled directly from the bronchi to the air vesicles into which they entered, but that the appearances which simulated this were due to atelectasis.

He thought that the term catarrhal pneumonia was a very bad one, and that the air vesicles were structures entirely different from mucous membranes.

He did not believe that broncho-pneumonia was a form of phthisis or lead to phthisis, but that phthisis had its own special anatomy from the very beginning.

Recent Literature.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Œsophagus, Nose, and Naso-Pharynx. By Morell Mackenzie, M. D. London. Vol. II. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1884. Octavo, Cloth. $3.00.

This volume completes Dr. Mackenzie's work on the Throat and Nose. The first volume, published four years ago, treated of the affections of the pharynx, larynx, and trachea, and was justly considered as nearly perfect as possible. The volume now before us, which consists of three sections, (1) Œsophagus, (2) Nose, and (3) Naso-Pharynx, is fully up to the first. The general arrangement of the two volumes is the same. Nearly every chapter is preceded by a concise, interesting, and oftentimes instructive historical sketch of the disease to be described, which gives the author ample opportunity to acquaint us with many literary and pathological curiosities which his extensive research has brought to light, and for which he has an evident relish. At the end of the chapters illustrative clinical cases are added, taken, in most instances, from the author's own unrivaled experience. Foot-note references to the writings of others are frequent throughout the book. Dr. Mackenzie appears to us to have been especially liberal towards his American confrères — perhaps in some cases too much so — in mentioning their instruments, methods, and writings. We fail to understand, for example, what benefit his readers can derive from perusing the long foot-note on page 313, copied from a work on Catarrh by an American author. This writer details a number of complications of nasal catarrh which could never have had any existence except in his own imagination. These Dr. Mackenzie reproduces at length, and then adds ironically that such symptoms are fortunately not met with in Great Britain. Neither are they met with in the United States, as Dr. Mackenzie well knows, and we regret that such statements having an American origin should be found in a work which is to enjoy such a wide circulation as the one before us.

The illustrations of morbid appearances are mostly originals; they are well executed, and very instructive. Too much space, however, is given to the drawings of the various insufflators, nasal douches, nasal spray producers, and pneumatic spray producers. These have long been familiar to all; they are constantly being modified and improved, and some of those pictured in

this volume are even now antiquated, at least in this country. The chapter on Nasal Instruments, in fact, resembles a chapter from an instrument maker's catalogue, for it contains the good and the bad. The volume closes with an appendix containing special formulæ for topical remedies, and an excellent index of subjects and authors. The first two hundred and thirty-four pages of this volume are devoted to the gullet: its anatomy, how to examine it, its diseases, and a description of œsophageal instruments. The author gives the results of his experiments to determine the calibre of the gullet, which show that its transverse diameter is very considerably greater than the antero-posterior measurement. In sounding the gullet, therefore, he recommends bougies somewhat flattened antero-posteriorly, as they adapt themselves more easily to the lumen of the tube through which they are meant to pass. In the chapter on Œsophagitis in Infants it is stated that the reason why English writers subsequent to Ryan (1835) have altogether passed over the disease is because that even in children's hospitals patients under two years of age are not admitted. In this connection we find a word of praise for Dr. Haven's hospital in this city, which is exclusively devoted to infants under this age.

Dilatations, malignant tumors, and cicatricial stricture of the gullet are treated in a thorough and brilliant manner. The various operative methods for stricture are fully considered. As regards internal œsophagotomy, the author thinks increased experience will show that though its immediate results are not so frequently fatal, its ultimate effects, even when successful, are less beneficial to the patient than either gastrostomy or œsophagostomy. Dr. Mackenzie gives the preference to gastrostomy, as it is both safer and easier to perform, and *always* meets the difficulty to be overcome, namely, the obstruction to the passage of food into the stomach, except in those comparatively rare cases in which the stomach itself is also diseased. Judging from statistics alone, he says, operative interference would seem to be attended with less satisfactory results than the milder palliative measures generally adopted. The average duration of life in his own series of one hundred cases of malignant stricture of the gullet in which no operation was attempted was *eight* months, while the average extent of life after the first manifestation of distinct symptoms till death in fifty-three cases in which gastrostomy was performed was *seven* months. Recent records, however, show much better results, and the author claims that as the increasing resources of science render earlier recognition of œsophageal disease possible the results of the operation will be still more satisfactory in the future.

From a literary point of view the chapter on Rupture of the Gullet is one of the best in the book, and is a model of the complete and painstaking manner with which Dr. Mackenzie works up a subject.

Succeeding chapters are devoted to Wounds, Foreign Bodies, Neuroses, Spasm, and Malformations of the Gullet. This section on the œsophagus is the most important part of the book, although in the remaining half of the volume the diseases of the nose and nasopharynx are discussed with great ability, and the extraordinary amount of labor which has been expended on the work is evident on almost every page.

In the chapter on Hypertrophy of the Nasal Mucous Membrane treatment with the electric cautery is recommended as the most simple and efficacious method. Not a word of caution, however, do we find in regard to applying the cautery, or any mention of the accidents which sometimes follow its use in the nose. The treatment of nasal polypi by evulsion, abscission, and electric cautery is considered in detail, and here, again, the preference is given to the cautery. Abscission with cutting forceps is held to be preferable to evulsion, and the author states that there are some polypi which, from their anatomical situation, cannot be extirpated unless a portion of the turbinated bone is also taken away.

Although the chapter on Hay Fever contains nothing new it is compiled in a manner which can only be described as Mackenzie's, and will be read with enthusiasm.

Taking this work on the Throat and Nose altogether there can be but one opinion in regard to it. It is a credit to medical literature, and will always occupy a place among the standard works. As a text-book it is exhaustive and reliable, in short, *the best*, in our judgment, which at present exists in any language.

F. H. H.

The Formation of Poisons by Micro-Organisms. A Biological Study of the Germ Theory of Disease. By G. V. BLACK, M. D., D. D. S. Philadelphia: P. Blakiston, Son & Co. 1884.

This is a series of lectures delivered at the Chicago College of Dental Surgery. From the title we had hoped to find some original investigation, but in this we were disappointed. The first part is a historical résumé of the work of Koch, Pasteur, and others. The second part is devoted to a consideration of the action of cells upon foreign substances, and the method in which they are gotten rid of. The process the author considers is due to the production of a ferment, and similar to digestion. He, however, is not able to show that the substance has been isolated in all cases. He then goes on to show that the action of micro-organisms is dependent upon a poison of a nature similar to the alkaloids. This, however, has been separated in so few cases that a generalization is hardly warranted as yet. The point made is summed up in the sentence, "The cells attacked either digest the invading germs or the invading germs digest them." We cannot quite agree with the author, and think that the word destroy for digest would be of rather wider application and nearer the mark. The last part of the book gives a description of the different forms of caries found in teeth, and the part in their production which is played by the bacteria, as shown by the works of Dr. Miller.

The Elements of Pathology. By EDWARD RINDFLEISH, M. D. Translated by N. H. MERCUR, M. D., and revised by JAMES TYSON, M. D. Philadelphia: P. Blakiston, Son & Co. 1884.

As the author says in his preface, this book is intended for those who have already a knowledge of the subject rather than as a systematic treatise for beginners. Considered in this light it certainly may fill a niche as the translator hopes. The subject has been treated from the stand-point of ætiology in the association of processes rather than from purely anatomical grounds. From the great experience of the author

there are many valuable suggestions. For example, the concise and simple way in which the changes in the heart produced by disease of its valves is stated. At times, however, he seems inclined to speculation, and to draw conclusions from evidence which is certainly weak if not wanting in some of its points, and it is especially on this account that it is hardly to be recommended to younger students. The style of the original is undoubtedly involved, and it is not the fault of the translator if some passages are a little obscure. The rather inferior quality of paper and type is, probably, necessitated by a desire to keep the price within reasonable limits.

Medical and Surgical Journal.

THURSDAY, NOVEMBER 20, 1884.

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CHOLERA NOTES.

BOSTON BOARD OF HEALTH.

BY reason of the outbreak of the cholera in Paris the Boston Board of Health has issued more stringent orders to the Port Physician in regard to the examination of passengers and baggage which may arrive here from foreign ports, especially on the French coast. The orders sent out by the Board at the time the cholera recently appeared in Italy are still in force also, but to guard against any possibility of this disease gaining a foothold here particular care will be taken to examine persons and merchandise coming to this port from localities in France. The work of looking after places in the city, as courts, alleys, cellars, etc., especially in the tenement house districts, which have been allowed to remain in a filthy condition by the owners and inmates, is being prosecuted with vigor.

THE EMBARGO ON RAGS.

Secretary of the Treasury McCulloch issued, November 15th, the following circular to customs officers: The unloading in the United States of old rags shipped on and after the 20th inst. from foreign ports or countries now or hereafter known to be infected with contagious or epidemic diseases is hereby prohibited. France and Italy, and all Mediterranean and French ports, are declared to be infected within the meaning of this order. Old rags gathered or baled in infected ports or countries, or shipped from other ports or countries, are also prohibited from being unladen. No old rags shall be landed at any port of the United States except on a certificate of the United States Consular officer at the port of departure that such rags were not gathered or baled at, or shipped from, any infected place or any region contiguous thereto. This circular supersedes No. 145 of August 30, 1884, and No. 162 of October 23, 1884, on the same general subject as to shipments made after the date specified, and will remain in force until further notice. This order will not be construed to allow the unloading of any old rags except upon the general permit of the local quarantine or health officer.

The Marine Hospital Bureau is informed that the cost of disinfecting rags abroad by the boiling process is $3 a ton.

NEW YORK STATE BOARD OF HEALTH.

The following notice has just been issued by the State Board of Health at Albany through its secretary, Dr. Alfred L. Carroll: —

"Local health officers and Boards of Health are hereby apprised that the rapid advance of cholera in Europe threatens the invasion of this country, which may occur at any moment, and are notified that the State Board of Health expects a strict performance of the duties imposed upon them by law. Among these duties are the determination of the period of quarantine of vessels, vehicles, or persons arriving from an infected locality; the regulation of intercourse with infected places; the suppression and removal of nuisances; the examination of places where the conditions are dangerous to public health, whether known or believed to exist, and to report promptly to the State Board of Health all facts relating to epidemic disease, and require such isolation and quarantining of persons, vessels, and sources of infection as shall be necessary; — in brief, to use all possible means to avert the introduction or prevent the spread of an epidemic as disastrous as cholera has everywhere been. These duties are not discretionary with local Boards of Health. The law is mandatory, and evasion or neglect will not be tolerated in the face of danger which menaces a community. Experience has shown that cholera poison does not extend where no filth favors its multiplication, and that the only way to obstruct its march is to remove all sources of pollution of soil, air, or water. In excremental contaminations especially lies the greatest risk, and all such conditions must be at once removed."

Sanitary Superintendent Day states that New York City has never been in a better condition to resist the ravages of cholera than at present, while the officials of the Health Department are energetic, competent, and constantly on the alert.

POLITICS AND PUBLIC HEALTH.

SOME months ago the JOURNAL commented editorially upon the reflex nervous and psychical effects of those occupations in which events largely outside the control of the operators made success or failure, particularly stock-speculation and dealing in "futures" generally. A new phase of this subject is suggested by the political campaign through which we have just

passed. To her devotees Fame is perhaps even more alluring than wealth. Men seek the bubble Reputation even where they will hardly follow for lucre.

What form of excitement can cause a more tremendous strain upon the nervous energies of its victim than the life of the professional politician! The contest which begins with (or even before) the "primaries," which thickens as the time approaches for the nominating convention, with its skirmishes, its attacks, its plots and counterplots, culminating in success or failure in carrying the nomination; which without a breathing space plunges into the thick of the battle for votes; the bargains for securing influential supporters; the physical exhaustion of taking the stump, the addressing of three or four audiences each day, and the traveling at night; the widespread publication before a gaping world not only of one's public record but of the most personal and secret matters of the private life; the shafts of vituperation and falsehood which cannot but leave their mark upon the most callous heart; the still more degrading effect of setting in motion this same vile enginery against an opposing candidate; and last, but not least, the strain of alternate hope and despair after the vote is taken and while the result is yet in doubt, — all this is an experience than which nothing could put a greater strain upon the whole mental and physical being. Those who have played for the highest stake in our political life and have lost, as has been the fate of not a few of our leading statesmen, may not have always owed their death directly to the mental strain and disappointment, but evidence is not wanting in several instances of a breaking up of health and courage after the great ordeal which never was recovered from. To go no further back than the memory of the present generation, we may mention Clay, Webster, Stephen A. Douglas, and Horace Greeley as melancholy instances of this. And what else could be expected? The attainment of the prizes of speculation is often a relative thing. All is not staked on one venture, and if the success is not all that was desired it may yet be considerable. But a public man who has been smitten with the presidential fever must either win his goal or fail utterly. For years he has kept his eye on the White House, and every public act has been viewed in its possible relation to that objective point. As his plans succeed and the goal comes nearer, his efforts and his excitement increase. And finally, when the prize is almost within his grasp, what must be the tension of every mental and physical fibre as he summons them to the aid of his supreme effort.

But this subject has bearings of more practical interest to the community than those relating to the presidential contests alone. The unnecessary frequency of the elections in many parts of this country is productive of evil results not only to the small army of candidates but to the general public, who waste a large amount of time, energy, and money over every election. In this city, for instance, the smoke of the last battle has not cleared away before we are involved in a municipal contest. One day in the year, or better still, one day in two years, should suffice to devote to the exercise of the elective franchise, and there seems no good reason why all State and municipal officials should not be voted for at one balloting.

One other and still more important point in which politics may be said to touch upon public health is suggested by the nervous strain which, under our present Civil Service system, is put upon the great body of Federal office holders at each national election. Every four years their means of livelihood are threatened. In the uncertainty of their tenure of office there is at all times, indeed, a degree of anxiety, but once in four years their risk becomes so imminent that they are virtually put into the position of playing for a stake, that stake being nothing less than their bread and butter. While the gambler's play affects only himself, the politician is able to put into the wager not only his own political ambition but the hopes, the anxieties, the mental health and happiness, and even the physical subsistence of a hundred thousand of his fellow citizens.

CHOLERA AND RAGS.

THE Treasury Department at Washington has issued another order relative to the importation of old rags under date of November 15th, the substance of which will be found in another column. This order supersedes those issued August 30th and October 23d, and prohibits the unloading in the United States of old rags shipped on or after the 20th instant from foreign ports or countries now or hereafter known to be infected with contagious or epidemic diseases. The order will remain in force until further notice.

We deprecated the issue of the first order as arbitrary and exaggerated. Such steps at first give a false feeling of security, and ultimately tend to diminish the respect and confidence which may be entertained towards the departments from which they emanate. As far as any facts exist on the subject, they do not show that old rags in the bale, as used by paper-makers, are especially dangerous conveyancers of contagion, but they do show that immigrants and their effects are. If there is any necessity for, or possibility of, regulating the one, in a still greater degree should it be true of the other.

It is to be hoped that central and local authorities will coöperate harmoniously in the enforcement of such regulations as may be deemed desirable under existing conditions; but it is no less to be hoped that such regulations will only be proclaimed after due reflection and under sufficient advice. Mere energy and activity, if fitful or ill-directed, will do more material and moral harm than good.

SIR JOSEPH LISTER ON CORROSIVE SUBLIMATE.

A MOST interesting address was delivered by Sir Joseph Lister at the opening meeting of the Medical Society of London, which was reported in the *Lancet* and *British Medical Journal* of October 25th. It con-

tained an account of the author's experience in the use of corrosive sublimate as a surgical dressing, and of his experiments with a combination of sublimate and blood serum. Professor Lister did not consider the subject by any means exhausted nor its practical application fully established, but he "ventured to hope" that the interest of some of the points might justify him in bringing it to public notice.

It is a very generally received view in the profession, not to say among professed chemists, that albumen forms, with corrosive sublimate, an insoluble, or very sparingly soluble, albuminate; and that this albuminate is inert; whence the efficacy of white of egg as an antidote in corrosive sublimate poisoning. If it were really true that the albumen, acting in a certain proportion on the corrosive sublimate, would form with it an absolutely inactive compound, this would be a very serious consideration for the use of corrosive sublimate in surgical practice. The albuminous (proteid) constituents of the blood are enormously abundant; while the quantity of corrosive sublimate which can be used in surgical dressings cannot be very great. According to the most recent views regarding albumen, its chemical equivalent is about six times that of corrosive sublimate; but the quantity of albuminous material in the serum of the blood is very much more than this in proportion to any amount of sublimate that we could have in our dressings.

Experiments made directly with blood serum and corrosive sublimate showed that if serum is mixed in small proportion with corrosive sublimate in a mortar the result is the production of a thick, opaque, slimy material, but if more serum is gradually added this material is redissolved in the serum until, if as much as 150 parts of serum to one of sublimate is used, a clear solution results.

Such a combination of sublimate and albumen is very mild and unirritating in its action, and gauze made with solutions of one part of sublimate to fifty of serum proves unirritating to most skins. In very few cases the one to fifty gauze has caused some irritation, which has, however, disappeared when gauze prepared with one part of sublimate to one hundred of serum was substituted.

The serum used for such dressings is obtained from horse's blood, which separates most completely in coagulating from the blood corpuscles, and is, therefore, to be preferred to beef blood, the serum of which contains a large number of corpuscles.

How far Professor Lister's experiments may be successful in furnishing a surgical dressing for general use is certainly very uncertain.

If the serum is treated with a certain proportion of sublimate, not sufficient to make it solid, it may be kept for any length of time. Professor Lister thinks it possible that this sublimated serum may come to be an article of commerce, which may be used in hospitals or even in private practice. A material of this kind, dried and reduced to powder, may come to be used for the purpose of mixing with vaseline for an antiseptic ointment or even for dusting in, under certain circumstances, among the dressings.

The interest in the subject which the distinguished surgeon feels will, probably, be shared by his readers, but any one who follows carefully the work the address details can hardly fail to take an equal interest in the exposition of the methods of study and the careful observation which preceded and led up to the use of blood serum.

CHOLERA IN PARIS.

The situation at Paris has not materially changed since last week. The number of daily deaths has varied from eighty to twenty, and probably less than a third of the cases have proved fatal. The mortality is calculated as not exceeding one in 36,000 of the population, a ratio very commonly exceeded by that due to typhoid fever. There has been a favorable change in the weather from the warm, moist, foggy atmosphere of last week to a cooler and clearer air, and this change is accompanied by a diminution in the tendency of the disease to spread.

Such victims as the disease has made so far have been entirely from the poorer quarters of the town, from the garrison, and from one of the homes for the aged. The richer quarters have not been attacked, and it is highly probable that cholera may linger on through the winter in its present state of semi-activity until given fresh vigor by the spring months.

The mere official recognition of the presence of cholera in the city was sufficient to clear the place of strangers, unless detained by business, and to nearly empty the hotels. Many of those who have fled, we have no doubt, have exposed themselves to more real danger than if they had stayed quietly where they were and lived with circumspection. Cheap shopping and lodging will prevail in Paris this winter, and for those who do not feel nervous as to their being accompanied by illness and death it might not prove an undesirable time to go to that capital. As far as lies in the power of the government, general and municipal, sanitary precautions will, probably, be energetically practiced. On the side of the people themselves it is quite as likely that familiarity will breed contempt, and as the winter advances individual carelessness will increase rather than diminish.

Very different accounts come from different sources as to the condition of the Paris water supply. The supply is drawn from four or five different sources, which are used for different purposes and in different quarters of the city.

MEDICAL NOTES.

— Dr. Roche states (*Lancet*, April, 1884) that five drops of tincture of cantharides, three times a day, is a good remedy for children suffering from incontinence of urine. It renders the neck of the bladder sensitive, and the stimulus of the urine keeps the sphincter tonically closed till voluntarily overcome at the micturition time. In children, want of tonic contraction in the sphincter, and not excessive sensitiveness and spasmodic effort in the body of the bladder, is the most frequent cause of nocturnal enuresis.

— A rather unusual case has lately been submitted to Judge Hagner in the Circuit Court at Washington, D. C., says the *Evening Star*. This was a suit to recover from Dr. W. H. Hale one hundred dollars paid him by a colored man named Meredith under a guaranty of Hale that for that sum he would cure Meredith's son of pulmonary consumption, and in case he failed he would refund the money. The boy died, and Meredith sued Hale before a justice of the peace and obtained judgment. The case was reopened, and judgment was given against Hale a second time, and he appealed. After the testimony of the parties was given, Judge Hagner affirmed the judgment below. He declined to consider the defendant's bill in bar for attending Meredith's wife, and decided the case solely as to the original claim. Judge Hagner read the heading of Dr. Hale's circular — "Hearth and Home, sworn circulation 63,000 copies monthly" — and the signed guaranty to cure the son, and said, "This guaranty was to perform an impossibility, to reverse a decree of the Almighty, and was akin to gypsying and voudooism, which says: 'I don't want your money, but as I must touch silver I must have it before I can succeed.' The justice was right in his decision that the money should be paid back, and this court affirms that decision."

— William H. Dempsey, of Washington, D. C., is under indictment in the United States Circuit Court in this district for forgery and uttering in defrauding the United States in connection with certain clerks in the Medical Bureau Department in Washington out of some $75,000 by means of false vouchers. Dempsey is under $5000 bail.

NEW YORK.

— The graduating exercises of the Training School for Nurses of Charity Hospital, Blackwell's Island, took place at that institution on Wednesday, November 12th. The class numbered twenty-one; the largest that has yet been graduated from the School. The principal address was delivered by the Hon. Abram S. Hewitt, who in the course of his remarks expressed the belief that the development of the trained nurse and the training school was fully as great a blessing to suffering humanity as the discovery of anæsthesia. Remarks were also made by the Rev. Dr. W. M. Taylor, Dr. Fessenden N. Otis, and Dr. Seaman, chief of staff at Charity Hospital. In his address Dr. Taylor said that whatever dispute there might be about other spheres of woman's work, there was no question about her qualifications and fitness for ministering to the sick. This is the eighth class that has left the hospital with the diplomas of this School.

— The Rhinelander case was the subject of discussion at the last meeting of the Society of Medical Jurisprudence, held November 13th. The paper of the evening was read by Dr. William L. Hardy, city physician, who said that from the examination which he made of Rhinelander while in prison, and the evidence in regard to his former life, he had become convinced that he was really insane. Because the prisoner, however, had shown a retentive memory and a certain shrewdness and cunning during the investigation in regard to his sanity, many had thought that he must be sane. Some of the legal gentlemen present thought that while Rhinelander was weak in certain respects and eccentric, that did not constitute him an insane person, or release him from the responsibility for committing a crime, and that his wit and excellent memory also argued against his being insane. Dr. E. C. Spitzka said that the different experts who were called in in the case had attributed to the prisoner so many kinds of insanity that he agreed with Recorder Smith's opinion that it was impossible that he should be affected in so many ways at the same time. Mild lunatics, however, were often noted for keenness of retort and a certain amount of shrewdness and cunning; while imbeciles sometimes had unusually good memories. Judging from the symptoms enumerated in the paper he would himself have no hesitation in pronouncing Rhinelander an undoubted lunatic.

— As a means of supplementing the deficient Croton water supply, the Bronx River was tapped last summer, and for about two months now the houses above Harlem bridge, on the east side, have had water from this source alone. The water was found from the first to be offensive in taste and odor, and as this continues to be the case up to the present, the Board of Health, at the instance of a number of physicians and other residents of the district, is making an investigation in regard to the wholesomeness of this water from the Bronx.

— The corner stone of the crematory of the United States Cremation Company, limited, which is being built at Mount Olivet, near Fresh Pond station, on the Long Island Railroad, was laid November 19th, when addresses were made by Prof. Felix Adler and the Rev. Dr. Howard Henderson.

Correspondence.

LETTER FROM MR. LAWSON TAIT.

BIRMINGHAM, *November* 5th, 1884.

MR. EDITOR, — I have had very much pleasure in perusing a large number of notices, in the American medical press, of the address which I was privileged to deliver to the Canada Medical Association in August last. The compliments paid to me in these notices have been far greater than I deserved, but the pleasure derived from all of them is more than counterbalanced by the pain I have felt at an editorial comment in the *Boston Medical and Surgical Journal* (October 2, 1884). Therein you express your opinion that my address was intended more for the castigation of Sir Spencer Wells than for the purpose of laying before the profession the results of my own experience and observation.

I am truly grieved that it should be possible in any way to put such an interpretation upon anything that I have said, for certainly nothing was further from my purpose. That I detailed my differences from Sir Spencer Wells in words which were strongly expressed is true, for when I feel strongly I am in the habit of fully expressing my meaning. That I strongly condemned language which was used rashly and indis-

criminately by Sir Spencer Wells is equally true, but that I had any intention of castigating that gentleman is an impression which I desire to remove, and if any word or phrase throughout my address can be legitimately understood in that direction I hereby freely and unreservedly withdraw it, and express my regret for it.

But let it be clearly understood that mere strength of language in the expression of my opinions is neither to be retracted nor to be regretted. I do, therefore, trust that you will allow me, in order that I may not appear in an unfair position in the eyes of the numerous readers of your influential journal, briefly to narrate the relation which Sir Spencer Wells has adopted towards me during the past few years. Until the month of August, 1881, I was on terms of intimate, almost close friendship with him, and I have discussed with him in private freely and without the slightest difficulty all the points upon which we have since been publicly at variance. I could never discover that by reason of difference of opinion there was anything likely to destroy our friendship. But at a meeting of the Obstetrical Section of the International Medical Congress in London, in a public discussion of the question of the removal of diseased uterine appendages, Mr. Spencer Wells uttered this sentence: "That he had only seen one case which justified an operation, and it was a very remarkable thing that so many were reported, he supposed that they must all go to Birmingham." My reply to him was that there was probably more truth in his suggestion, that the cases went to Birmingham, than he had any idea of, and from that time, and apparently from that reply of mine, all association between us has ended. It has been repeated frequently to me that insinuations have been made in London concerning my practice of an extremely objectionable kind, and these I have traced in several instances to the lips of Mr. Spencer Wells.

During the past three years, as in many instances before that time, it has been considered advisable by patients and their friends that they should have the opinion of Sir Spencer Wells as well as mine, or that they should have my opinion in addition to his, and in all such cases I have acted upon the rule of my profession, and have communicated by letter or by telegram with him. On his part he has persistently subjected me to the most humiliating treatment which one practitioner can apply to another, that of entirely ignoring my communications, and in public he has deliberately turned his back upon me.

Under such circumstances as these it will not be a difficult matter for your readers to understand that I am not much inclined to modify language which in any case would be strong, nor to pick and choose my expressions in order to couch them with greater delicacy. I have received at the hands of Sir Spencer Wells treatment which I think any one would resent, but in spite of that I had no intention of saying one word which could be regarded as being intended for purposes of castigation. I would further point out that what I have said has been chiefly in defense of another whose positions have been assailed, whose accuracy and honesty have been called in question, — I mean Mr. Keith, — and I have said very little indeed on my own behalf. I also think I am justified in saying that what little I have said for myself was in reply to repeated attempts at castigation which have been made upon me by Sir Spencer Wells.

In conclusion I can only say concerning Sir Spencer's conduct towards myself, that it is not what we expect from an English gentleman, still less is it in harmony with the position to which, by the grace of his sovereign, he has been recently raised.

I am sir, your obedient servant,

Lawson Tait.

[We publish with much pleasure the above letter from Mr. Lawson Tait. If our editorial comment on his address at Montreal contained any element of injustice to Mr. Tait we regret it. — Editor.]

HYDROCHLORATE OF COCAINE.

Portland, Maine, *November* 15, 1884.

Mr. Editor, — Hydrochlorate of cocaine, the recently brought forward local anæsthetic, is upon trial, particularly in ophthalmic and aural practice, and therefore it should be not only a duty but a pleasure for those who are using the drug, which promises so much, to give clinical experience with the same. The writer has found that a one per cent. solution, frequently repeated, is quite efficacious, producing rapid anæsthesia of the parts, and that an operation can be performed much sooner than one would be led to suppose by a perusal of the reports of most of those who have thus far recorded their clinical experience.

Case I. G. S. D., aged seventy, senile cataract. This patient was rather timid, and preferred to take ether, but being dressed for the bed and lying in a recumbent position one drop of a one per cent. solution of the hydrochlorate of cocaine was instilled thirteen times in the course of twenty minutes, when immediately after the last application the cataract was removed by Graefe's method modified. The eye was particularly unsound, since when the counter puncture was made vitreous was seen to present, but by careful manipulation no vitreous was lost, and it is believed that the use of the drug assisted materially in preventing such a disaster. There was a noticeable absence of congestion of the conjunctiva, and scarcely a drop of blood was lost in the section of the cornea, and none in doing the iridectomy. The perfect control of all the movements of the eyeball with the absence of spasmodic action of the muscles, as occurs when the operation is done without any anæsthesic, was observed, and assisted in the manipulation necessary to the expulsion of the lens.

Case II. C. J. B. got a piece of emery in his left eye twenty-four hours since. Did not stop work. Eye pained him last night. There was marked pericorneal injection, photophobia, lachrymation, and spasms of the lids. The emery was imbedded near the centre of the pupil in the corneal substance proper. A drop of a one per cent. solution of hydrochlorate of cocaine was instilled ten times at an interval of about one minute, when the foreign body was removed without pain and so easily that he hardly believed the emery had been removed. Atropia was applied, and he was ordered a collyrium containing atropia to be applied, eye to be protected, and to stop work. The eye felt so much better at once and continued to do so that he went to work, and on the second day I was called and found swelling of the lids, chemosis of the conjunctiva, and quite a collection of pus in the cornea at the point where the emery had been removed. Under appro-

priate treatment these unfavorable symptoms were readily changed, but the case is cited to show how the use of cocaine may lead the patients to disregard the instructions given them and lead them to be much more careless than though there had been some pain experienced in the operation.

The drug has been used in various other operations upon the eye and has quite fully come up to all that has been claimed for it. In the removal of polypoid growths from the ear, nose, and naso-pharynx, it has been found of great assistance, since by its use manipulations in these parts are much more readily borne, and therefore much more easily accomplished.

E. E. HOLT, M. D.

PROFESSOR PETTENKOFER ON THE CHOLERA BACILLUS.

BERLIN, *October* 18, 1884.

MR. EDITOR, — I take the liberty to inclose to you an extract from an address delivered October 15th, in Munich, by the eminent Professor Pettenkofer, before the Medical "Verein" of that city. The address was made in reply to an article by Dr. Frobenius upon the subject of cholera viewed in the light of recent studies and clinical observations, in which the bacillar nature of the infection was maintained.

Professor Pettenkofer said: "I think that we all have ample cause for renouncing the 'contagionist' theory in relation to the spread of cholera. We have been led to squander millions of money without apparent benefit by following these delusive theories. (Italy already regrets her sanitary regulations, etc.) I openly announce that I am forced to sustain and defend my former opinions in regard to the 'localization' of this disease, and I do this with the more confidence and the greater positiveness from the fact that the investigations of Koch have not succeeded in establishing any evidence against their correctness.

"The time is now fully come when the experiment should be made to determine whether the comma bacillus of Koch is capable of producing true cholera. The attempts which have been made upon animals have not been successful. *I freely offer myself for this purpose, and am ready to swallow bacilli which have been cultivated by Koch himself*, provided that no local or temporary conditions exist at the time of the experiment, such as the presence of cholera in the city, etc., by which the results of the trial might be rendered valueless. War has been waged and human lives sacrificed for a less worthy cause than this. *Here the noble object to be attained is so evident that the life of one individual* appears of little importance. My example, which, as I repeat, I freely and willingly make, will find followers. It will not be difficult to find twenty physicians who will offer themselves to confirm my view. Hundreds will follow these, until from the mass of accumulated evidence a correct judgment may be reached. (Professor Pettenkofer also declared his willingness to prepare for the experiment by first inducing a gastric and intestinal catarrh before introducing the bacilli.) I estimate Koch very high as a bacteriologue, and fully recognize his ability in the highest degree, but I must combat the conclusions to which he has arrived."

Very truly yours,

ALBERT N. BLODGETT, M. D.

Miscellany.

AN UNUSUAL CASE OF RABIES IN THE HUMAN SUBJECT.

THE London *Medical Record* condenses from the *Revue de Medicine* for August the details of a case recorded by M. de Beurmann of a woman who died in twenty-four hours from hydrophobia under extraordinary circumstances. The patient was forty-three years of age, and sixteen and a half months before she was attacked had lost by undoubted hydrophobia her favorite spaniel, which, as soon as the disease was confirmed, was kept in durance until its death by M. Bourel, a veterinary surgeon, who vouches for the fact that the animal was unmistakably rabid. The case as reported by M. de Beurmann presents interesting peculiarities upon three points. Firstly, the extremely long period of incubation — upwards of sixteen and a half months since the inoculation — was proved by the fact that the animal died fully that period before the development of the confirmed disease in the patient; and that, though after a lapse of time she ceased to think anything further of the inoculation or its consequences, she was careful in future to altogether avoid contact with dogs. The second noticeable point is the fact that, although the incubation was so long, the conditions were those which have hitherto been supposed to shorten the quiescent period; namely, mature age on the part of the patient, and a seat of inoculation near the nervous centre. In the case in question this was a sore on the upper lip which had been licked by the spaniel while suffering from early symptoms of the disease, the nature of which was then unknown. In this latter connection the author also refers to a case of M. Landouzy, where, although the patient was bitten in the cheek close to the eye, the symptoms were sixty-eight days in declaring themselves, whereas in three cases recorded by the same author, when the patient was bitten in the hand, symptoms appeared in sixty, forty, and thirty-nine days respectively. The third point is one which leads the author to a hypothesis having undoubtedly strong support from analogy. He points out that, though distinctly hydrophobic symptoms did not appear for sixteen and a half months after inoculation, the patient's history shows psychic disturbance and alteration in character for upwards of five months previously. She had become restless, irritable, emotional, anxious, had lost her appetite and power of sleep, and given herself up to exaggerated religious observances. She quarreled with her workpeople, was anxious out of all proportion to her responsibilities, and was a prey to extreme fatigue and agitation for some time prior to the pharyngeal spasm which marked the onset of the disease. The author points out that M. Roux, in his thesis upon hydrophobia, calls attention to the singular manifestations at times afforded by rabid patients, more particularly when the inoculation is intravenous. They may be limited to local or general paralyses, to convulsions, to incessant itchings without presenting any of the ordinary symptoms of hydrophobia of either the furious or the morose type. On this point M. de Beurmann adds: "It would be interesting to note with care the very numerous cases in which the bite of rabid animals is not followed, at least apparently, by any effect. Possibly attention directed to the victims might disclose in their manner some unwonted symp-

toms referable to rabies, and the existence of such abortive symptoms might lead to a belief in the existence of slight or spontaneously curable cases." Further, he says: "From this point of view it is of equal importance to ascertain if, in cases of very prolonged incubation, such as the one which forms the subject of this paper, the onset of confirmed symptoms be not preceded by a series of prodromata more or less premature. These premonitory accidents would so far shorten the apparent period of dormancy of the virus, and would greatly facilitate the true understanding of these extraordinary cases." The reporter, while admitting the ingenuity and probability of the author's hypothesis respecting the shortening of abnormally long periods of incubation by the supposition of at present ill-understood prodromata, points out that in this case the patient's lip, at first inflamed, after cauterization with nitrate of silver cicatrized regularly, and remarks that cauterization, insufficiently extensive and powerful to entirely destroy the virus, should not be completely ignored as a *possible* factor in the lengthening of the dormant stage.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 8, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	628	234	23.04	16.64	5.44	3.52	9.12
Philadelphia	927,995	341	114	19.14	16.53	—	2.61	13.34
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	210	105	34.08	5.76	3.84	4.32	19.20
Boston	423,800	196	61	16.32	6.12	3.06	4.08	9.69
Baltimore	408,520	148	38	16.32	19.72	6.12	3.40	6.12
St. Louis	400,000	168	64	30.36	15.18	4.20	3.00	14.40
Cincinnati	272,400	110	40	28.21	17.29	6.37	2.73	5.46
New Orleans	234,000	151	20	19.20	15.36	6.40	.60	3.00
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	90	28	15.26	13.08	6.54	3.27	2.18
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	35	—	29.30	29.30	—	5.72	8.58
New Haven	62,882	24	7	16.64	8.32	—	8.32	4.16
Nashville	54,400	21	8	28.56	14.28	9.52	—	14.28
Charleston	52,286	42	16	14.28	11.90	2.38	2.38	7.14
Lowell	71,447	24	11	12.48	24.96	—	—	12.48
Worcester	69,442	29	15	37.95	10.35	6.90	—	27.60
Fall River	62,674	33	16	30.30	3.03	6.06	9.09	3.03
Cambridge	60,995	20	6	25.00	10.00	5.00	10.00	—
Lawrence	45,516	8	3	12.50	—	—	12.50	—
Lynn	44,895	20	5	10.00	10.00	5.00	—	5.00
Springfield	38,090	10	1	20.00	30.00	—	—	20.00
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	16	8	12.50	18.75	6.25	—	6.25
New Bedford	30,144	9	1	11.11	22.22	—	11.11	—
Salem	29,503	4	1	—	—	—	—	—
Chelsea	24,347	11	4	9 09	27.27	9.09	—	—
Taunton	22,693	8	2	25.00	25.00	—	—	25.00
Gloucester	21,400	3	3	—	—	—	—	—
Haverhill	20,905	8	4	25.00	—	25.00	—	—
Newton	19,421	9	—	22.22	11.11	—	11.11	—
Brockton	18,323	5	2	40.00	20.00	20.00	—	20.00
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	2	0	50.00	—	—	—	—
Fitchburg	13,433	5	0	20.00	40.00	—	20.00	—
Seventy-six Massachusetts towns	—	55	10	7.28	18.18	1.82	—	5.46

Deaths reported 2443: under five years of age, 825; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 544, consumption 366, lung diseases 268, diphtheria and croup 240, diarrhœal diseases 102, typhoid fever 78, scarlet fever 36, malarial fevers 35, measles 23, whooping-cough 13, cerebro-spinal meningitis nine, erysipelas eight. From *malarial fevers*, New Orleans 13, New York seven, St. Louis six, Baltimore five, Philadelphia two, Chicago and Charleston one each. From *scarlet fever*, Chicago nine, New York seven, Boston five, Philadelphia four, District of Columbia three, Fall River and Cambridge two each, Cincinnati, New Orleans, Newton, and Newburyport one each. From *measles*, Cincinnati 14, New York eight, Fall River one. From *whooping-cough*, New York seven, Philadelphia and Chicago two each, St. Louis and Cambridge one each. From *cerebro-spinal meningitis*, New York and Boston two each, Philadelphia, Chicago, New Haven, Worcester, and Fall River one each. From *erysipelas*, Philadelphia and Boston two each, Chicago, Baltimore, and St. Louis one each.

One case of small-pox was reported in St. Louis; scarlatina 48, diphtheria 35, typhoid fever 30, and measles six in Boston.

In 94 cities and towns of Massachusetts, with an estimated population of 1,087,616 (estimated population of the State 1,955,104), the total death-rate for the week was 17.80 against 17.70 and 17.62 for the previous two weeks.

For the week ending October 25th, in the Swiss cities, there were 24 deaths from consumption, lung diseases 14, diarrhœal diseases 14, diphtheria and croup three, typhoid fever three, small-pox two, puerperal fever two. The death-rates were, at Geneva 16.3; Zurich 5.9; Basle 16.3; Berne 15.6.

The meteorological record for the week ending November 8th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Nov., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 2	30.109	47	56	42	60	48	64	57	NW	W	W	14	9	8	O	O	O	—	—
Mon., 3	30.204	43	52	35	75	45	67	62	W	W	SW	9	6	9	C	C	C	—	—
Tues., 4	30.137	48	52	41	80	90	100	90	SW	E	SE	1	16	6	O	R	R	—	—
Wed., 5	29.595	47	58	37	92	36	46	58	W	W	W	10	21	30	O	F	C	—	—
Thurs., 6	30.007	32	40	27	68	53	90	70	W	W	W	25	24	16	C	C	C	—	—
Fri., 7	29.992	41	50	25	83	30	41	52	W	SW	SW	16	22	19	F	F	C	—	—
Sat., 8	30.107	37	47	30	62	39	77	59	W	N	NW	10	21	11	O	C	C	—	—
Mean, the Week.	30.050	42.3	50.5	33.9				64.1										14.00	0.37

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM NOVEMBER 8, 1884, TO NOVEMBER 14, 1884.

BYRNE, C. C., major and surgeon. Granted four months' leave of absence from November 16, 1884. S. O. 265, A. G. O., November 11, 1884.

TREMAINE, W. S., major and surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 233, Department of the East, November 12, 1884.

WILSON, WM. J., captain and assistant surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be spared by his department commander. S. O. 262, A. G. O., November 7, 1884.

SHUFELDT, R. W., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Wingate, N. M. S. O. 217, Department of the Missouri, November 4, 1884.

OWEN, WM. O., JR., first lieutenant and assistant surgeon. Relieved from duty at Fort Canby Washington Ter., and ordered to Fort Spokane, Wash. Ter., for duty. S. O. 169, Department of the Columbia, November 4, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING NOVEMBER 15, 1884.

BEARDSLEY, GROVER S. Promoted to the grade of Medical Inspector, April 24, 1884. November 14, 1884.

HEFFENGER, A. C., passed assistant surgeon. Duty at Portsmouth, N. H., continued till December 12, 1885. November 11, 1884.

WIEBER, F. W. F., assistant surgeon. To the Receiving Ship Vermont, at New York. November 12, 1884.

MEDICAL GRADUATES.

THE following gentlemen received the degree of M. D. at Dartmouth College, November 11, 1884: —

Charles Abbott Blake, Massachusetts; Willis Elmer Bowie, New Hampshire; Edward Clark Russell, Vermont; Walter Corliss, Maine; Oliver Austin Everett, Massachusetts; Onslow Allen Gordon, Massachusetts; Henry Carroll Holbrook, Vermont; Almon H. Keach, New York; Charles Edward Lovell, Massachusetts; Frank Constant Manchester, New Hampshire; Frank Eugene Mayberry, Maine; Angus Oster Patton, Canada; Charles John Peirce, New Hampshire; Frank Fletcher Pope, Massachusetts; Ellsworth Elbridge Shaw, Maine; Horace John Soule, Massachusetts; Frank A. Verrill, Maine; Charles Stuart Willis, New York; Andrew Reginald Wentworth, Maine.

SPECIAL MEETING OF THE BOSTON MEDICAL LIBRARY ASSOCIATION. — A special meeting of the Boston Medical Library Association will be held at the Library, Tuesday, November 25th, at 8.30 P. M., for the presentation of a bust of the late Dr. J. Marion Sims. Dr. O. W. Holmes will receive the bust on behalf of the Association. After adjournment there will be a social gathering in the Reading Room.

O. F. WADSWORTH, *Clerk.*

APPOINTMENTS.

BOSTON CITY HOSPITAL. — Physician in the Out-Patient Department, Edward M. Buckingham.

Physician to the Department for Diseases of Women, Charles M. Green.

DIED, — In Northampton, Mass., November 16, 1884, Samuel Augustus Fisk, M. D., M. M. S. S., and Ex-President of the Society, aged sixty-three years.

BOOKS AND PAMPHLETS RECEIVED. — A Manual of Dermatology. By A. R. Robinson, M. B., L. R. C. P. & S. Edin., Professor of Dermatology at the New York Polyclinic, etc. New York: Bermingham & Co. 1884.

Micro-Organisms and Disease. An Introduction into the Study of Specific Micro-Organisms. By E. Klein, M. D., F. R. S. With 108 Engravings. London: Macmillan & Co. 1884.

Transactions of the Colorado State Medical Society at its Fourteenth Annual Convention, held in Denver, June, 1884. Denver.

Asiatic Cholera in North America. National Conference of State Boards of Health. Held at St. Louis, October 13–15, 1884.

Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America. An Address delivered at the Opening of the National Conference of State Boards of Health. St. Louis, October 13, 1884.

Comparative Physiology and Psychology. A Discussion of the Evolution and Relations of the Mind and Body of Man and Animals. By J. V. Clevenger, M. D. Chicago: Jansen, McClurg & Co. 1885.

Jequirity: Its Uses in Diseases of the Skin. By John V. Shoemaker, A. M., M. D. Extracted from the Transactions of the Medical Society of the State of Pennsylvania for 1884. Philadelphia. 1884.

Jewish Hygiene and Diet. The Talmud and various other Jewish Writings heretofore Untranslated. By Carl H. von Klein, A. M., M. D. Delivered before the Annual Meeting of the American Medical Association at Washington, D. C., May, 1884.

Notes on the Treatment of Trachoma by Jequirity. By Leartus Connor, A. M., M. D. (Reprint.) 1884.

A Clinical Study of Syphilis of the Eye and its Appendages. By Leartus Connor, A. M., M. D., of Detroit, Michigan. (Reprint.)

The Principles and Practice of Midwifery, with some of the Diseases of Women. By Alexander Milne, M. D., Ex-Vice-President Edinburgh Obstetrical Society, etc. Illustrated. Second Edition. New York and London: Bermingham & Co. 1884.

Lectures.

SUNSTROKE. CHRONIC MENINGITIS.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.[1]

BY H. C. WOOD, M. D., LL. D.,
Professor of Nervous Diseases in the University of Pennsylvania.

GENTLEMEN, — The first case that I show you to-day is one of sunstroke. The following is the history: "J. W., age twenty-five, born in Ireland, has been in this country about two years. He has always been healthy, with the exception of bronchitis, which he has every fall. He denies having had venereal disease. He has always been a heavy drinker, and often gets drunk. For two weeks previous to admission he had been drinking very hard. On the 6th of September he was working on the University grounds. With the exception of the effects of his spree he felt as well as usual. About ten A. M. he began to feel weak and dizzy, but continued at work. These symptoms increased, and at half-past eleven he fell unconscious, and was brought to the hospital."

This case presented the symptoms usually seen in sunstroke. This condition is to be differentiated from heat exhaustion. In the latter the symptoms as a rule develop more gradually. The loss of consciousness is usually not so complete, and if the skin is examined it will be found cold and clammy, whereas if, in a case of true sunstroke, the hand be placed on the surface, or the thermometer be introduced into the rectum, it will be found that the patient is burning hot. The sudden onset, the complete loss of consciousness, and the high temperature distinguish this as a case of true sunstroke.

It is, of course, possible to have these symptoms occur in a case of apoplexy. There may be sudden loss of consciousness with high temperature in apoplexy, but very rarely does the temperature go up as rapidly as it does in sunstroke. In apoplexy the temperature may ascend two, three, or four, or more degrees, according to the seat of the clot, but the rise occurs in a few hours instead of a few moments. The completeness of the recovery, so far as the general symptoms are concerned, shows that this was a case of sunstroke and not one of apoplexy. In any case you should at once look for symptoms of a local lesion. You see whether or not the face is drawn to one side, or a leg has lost its power. If in a case of supposed sunstroke it is found that there is a *gradual* rise of temperature, with a distinct and decided loss of power in one part, there is good reason for making a diagnosis not of sunstroke but of apoplexy. This matter is of some importance, for I have seen sunstroke diagnosticated as apoplexy with fatal consequences. The distinctive symptoms of sunstroke are, the suddenness of the onset, the completeness of the loss of consciousness, and the high temperature without local palsy.

The next point in the history of this man to which I shall call attention is that there were some prodromes before the appearance of the unconsciousness. It is commonly thought that sunstroke comes on a man like a lightning flash out of a clear sky, and that under its influence a man drops at once; but I believe that in the majority of cases there is some indication of the coming danger — that there is a little cloud, although it may be no bigger than a man's hand, showing the approach of the coming storm. The prodromes which may precede the sudden onset and fully formed stage of sunstroke may consist, as they did in this case, simply of dizziness and a general feeling of wretchedness, or they may take a more specific type, and there may be headache, flashes of light, especially changes in coloration in the landscape, or there may be a flash of color blindness, or rather a flash of color-seeing. Clouds of yellow, and especially of red, float before the eyes. These are very characteristic of the approach of sunstroke. In the present case the prodromes seem to have been limited to dizziness and weakness, and as he now tells me, to an absence of perspiration. Here is a practical point in regard to prevention, which I shall allude to at this point. When a man, who is working in the hot sun, or in a hot boiler room, or in the evaporating room of a sugar refinery, or in any place where he is exposed to heat, does not sweat and begins to have some symptoms of cerebral difficulty, he is in danger of sunstroke. Under such circumstances it will generally be found that if a thermometer is placed under the tongue the temperature is two or three degrees above the normal, and the man is in the first stage of a disorder which may well be called thermic fever. At this time a cold bath, or simply going into the cool air, may relieve the condition. Every one who is exposed to heat should know that when there is lack of sweating, associated with general distress or disturbance about the head, he is in danger of sunstroke, and should at once give up his work.

There is another practical point to be drawn from the history of this case, and that is that the man whose system is weakened by the habitual use of alcohol, or by the recent excessive use of alcohol, is in a bad condition to resist the action of heat; this condition depresses the nervous system, and is a very strong predisposing cause to the occurrence of sunstroke.

This patient after suffering from the prodromes mentioned suddenly became unconscious. What was the cause of the sudden unconsciousness? The explanation is, I think, not difficult to understand. I cannot to-day give an elaborate discourse on the pathology of fever, but remember that the essential cause of elevation of the temperature of the body is the paralysis of certain cerebral nerve centres, which centres have for their function the inhibition of the production of animal heat. If these centres are paralyzed there is a rapid and enormous development of heat. What happens in cases of the character of the one before us is that the temperature of the body rises continually until finally a point is reached when this nerve centre is paralyzed, and there is nothing to restrain the development of animal heat, and suddenly every part of the body begins to develop heat. If the temperature curve could be registered in such a case, it would be found that a temperature which had been 103° F., 104° F., or 105° F., suddenly goes up to from 109° F. to 112° F.

Remember, gentlemen, that sunstroke may be developed under almost any circumstances, provided there is external heat, especially heat of a moist kind. It may develop at night under the heat of the tropics. It may develop in a patient with typhoid fever, rheumatism, or other disease in the hospital ward. Then there is a complicated condition.

The notes of this case go on to say that when brought to the hospital the temperature in the rectum was 110° F. The man was completely unconscious and

[1] Reported by William H. Morrison, M. D.

vomiting incessantly. The evacuations were voided involuntarily. There was slight twitching of the general muscles which later increased to decided, although not severe, convulsions. One of the most striking features of the case was the blueness of the surface of the skin and the almost complete arrest of the capillary circulation. I was not in the city at the time this man was brought to the hospital, but I have no doubt that if I had entered the room where he was I should have diagnosticated sunstroke at once from the odor. The odor of sunstroke is as distinct and as unmistakable as is the odor of typhus fever, small-pox, or any other disease. It is especially marked where there has been involuntary evacutions. Not only does the body give out this peculiar odor, but the stools lose their true fæcal smell in this peculiar, characteristic odor. The cause of this odor I do not know. It is, of course, dependent on the production in the secretions of some peculiar principle, the result of disturbed innervation. You must remember, gentlemen, that there is a close connection between nutrition and innervation. I have had under my care for years a patient in whom at one time, when out of health, a long walk would produce excessive fetor of the body which, while perceptible in all parts, was especially marked in the breath. The odor was evidently due to the production of a sulphur compound, for any article of jewelry that she wore at the time would be blackened by the formation of a sulphide. There was, in a word, the production of a fetid odor containing a peculiar sulphur compound of some kind, whose formation was dependent on lack of nerve power, or nervous exhaustion. In the same way there is developed in sunstroke, as a result of failure of nerve power and altered nutrition, a peculiar, unknown principle, which may be recognized by its odor.

In sunstroke, especially if the case has persisted for any length of time, other symptoms besides those I have mentioned appear. The first manifestations are due to over-heating of the brain, but afterwards symptoms due to disordered state of the blood develop. If the blood of a patient dead from sunstroke is examined it will be found to be liquid, and will not present the natural hue. It does not coagulate on exposure to the air, or perhaps there form in the blood little soft jelly-like masses, which are imperfect attempts at coagulation. The secretions are affected in sunstroke. At first there is dryness of the skin, but later the patient may become bathed with a fetid perspiration. The urinary secretion is lessened and finally arrested, and if the development of the case has not been prevented by proper treatment uræmic symptoms often appear. I mention these facts because they have an important bearing on the treatment. Although the early treatment of sunstroke is a very simple matter, the management of the case after the condition has lasted for some time may be one of considerable perplexity, for then you do not have simply the original trouble to treat, but also the damage which has been done by the original attack.

The marked blueness of the surface and the lack of circulation, which is referred to in the notes of this case, is a common symptom, indicating failure of heart power. The excessive heat, which weakens and finally paralyzes the nerve centres, also lessens the functional activity, and at last destroys the life of the heart, and weakens and eventually palsies the muscular fibres in the capillaries. The gland cell, the nerve cell, the muscular fibre, and all other forms of tissue were meant to run on a certain plane of constant temperature. If the temperature is elevated or depressed there is depression and finally paralysis of the function of the part. The blood stagnates in the capillaries partly on account of the failure of heart power, partly because the muscles of the capillary walls are unable to contract and expel the blood, and partly because the altered crasis of the blood unfits it for moving through the small vessels. The pulse in this condition, although it may be large, is soft and feeble, and often is very rapid.

In sunstroke one of the most important elements in the prognosis is the length of time that the symptoms have lasted. This man, fortunately for himself, was working on the University grounds at the time that he was attacked, and was brought to the hospital a few minutes after he had fallen unconscious. If he had dropped at some distance from the hospital, and had not been brought in for an hour or two, I do not believe that his life would have been saved. The symptoms which he presented were excessively severe for the first stage of sunstroke. If you can get hold of a case of sunstroke at once, and have command of the proper appliances, you can almost always save the patient, let the symptoms be as severe as they may. The presence of the capillary stasis mentioned in this case is always an important element in judging of the severity of the case. If such stasis has lasted for some time recovery is not probable.

The peccant thing, the *materies morbi*, in sunstroke is the heat. If this heat can be gotten out of the body the patient will recover, provided the high temperature has not produced organic changes. At first the condition is functional, but after a time the constitution of the blood is altered, the muscular fibre degenerates, and other organic changes are produced. Then, although the heat be withdrawn, the man may not recover consciousness, or if he does may have paralysis of some part or some injury to the glandular organs. Therefore, although you should usually give a favorable prognosis if the case is seen at once, yet if the symptoms be severe, and have lasted many minutes or hours, the prognosis becomes doubtful.

The indication for treatment is plain. It is to withdraw the heat. That method of treatment is the most effective by which the heat is most rapidly withdrawn. This man was very properly rubbed with ice. Although I say that this was perfectly proper, yet I do not consider it the best treatment for sunstroke. If the patient be covered in a bath tub with lumps of ice and a little water I believe the heat will be removed more rapidly than by rubbing with ice. In this case, under the application of ice, the temperature was in an hour and a half reduced to 102° F. With the ice-water bath I should have expected the temperature to be at 102° F. in a few minutes. It is important to bring the temperature down as rapidly as possible. After the temperature was lowered and the application of ice stopped reaction occurred, and the temperature again arose to 104° F. The man was placed in an ice-water bath, and the temperature fell to 101° F. A case to which I have referred on other occasions, but to which I again call attention in order to impress these things upon your minds, was that of a man who suffered from sunstroke at the Centennial Exhibition. I saw him immediately after the occurrence, and packed

him away in an ice-water bath, with large lumps of ice all around. He soon recovered consciousness, and thought that he was stored away as a corpse in an ice-chest. It was rather a novel experience, but it saved him from the ice-chest.

The cold applications should not be continued until the temperature reaches normal. If the temperature at the start has been 110° F., the man should be removed from the bath as soon as the temperature falls to 103° F. The best place to take the temperature is, of course, in the rectum, the next best place being the mouth. The axilla cannot be used because the peripheral temperature falls much more rapidly than does the internal temperature. The reason for stopping the application of cold as soon as the temperature comes within two or three degrees of normal is that very often it continues to fall after the external cold has been taken away, and the danger is that if the temperature be reduced too much it may fall below the normal. There is sometimes in sunstroke a tendency for the temperature to rise after it has been artificially reduced. Under such circumstances the hypodermic injection of quinine is of service, or if the local results be feared, the quinine may be administered by the rectum.

Another very important remedy to be used in these cases, especially where there is convulsive seizures, is morphia by hypodermic injection. One fourth of a grain of the sulphate should be given. In this case the notes state that after the reduction of the temperature digitalis was given on account of the failure of heart power, and with it was associated the deodorized tincture of opium. Bromide of potassium was given to control nervousness, although the man was constantly vomiting. Bromide of potassium should never be put in a stomach which is already irritated. If the stomach is engaged in rejecting everything which is put in it it will simply be encouraged in its evil way by the use of bromide of potassium. It was a proper remedy for the condition of the patient, but it was a very improper remedy for the condition of the stomach, and it was at once rejected by the stomach. It either should have been given by the rectum or substituted by something else. In this case the rectum would probably not have tolerated its introduction.

Soon after the temperature was reduced to normal the man regained consciousness, but the headache remained, and an ice-cap was very judiciously applied to his head. For a day or so there was an evening rise of temperature, but since then the temperature has been normal. There has been occasional slight headache. He is weak, and feels giddy on rising. Remember that this man is suffering not simply from the results of a sunstroke, but from the results of sunstroke superadded to those of a debauch. The symptoms are therefore a little different from those of an ordinary attack of sunstroke. Usually in the affection occurring in a person who does not use alcohol the local symptoms are more marked than the general. The local symptoms which are usually presented are headache, cerebral confusion or distress, and perhaps dizziness. This man had these symptoms only to a slight extent. He has had slight headache and dizziness on getting out of bed, but to these are superadded a condition of general weakness, which is partly the result of the disorder of the nervous system and of the blood wrought by the sunstroke, and partly the result of the exhaustion due to the excessive use of alcohol.

It is a matter of importance that the late symptoms of sunstroke should be properly treated. The most important sequela of sunstroke is chronic meningitis, which is often associated with chronic cerebritis, that is, chronic inflammation of the brain membranes affecting to some extent the gray matter of the brain. Hence the after-treatment consists in trying to prevent the occurrence of this inflammation. This man had slight symptoms of meningitis, in that for a day or two there were present throbbing headaches, and he was very properly put on the use of a mercurial.

There may be some cases of sunstroke in which it may be right to bleed a patient during the active stage of the attack. I have, however, never seen such a case. There are on record undoubted cases in which a man has fallen from sunstroke, has been freely bled, and at once recovered consciousness. In most of such cases the free bleeding has restored consciousness probably not so much by its direct as by its indirect influence. The running off of the hot blood rapidly lowers the temperature, and the man is relieved not because the unconsciousness was due to cerebral congestion, but because the removal of the blood has rapidly cooled the body. At the same time, if I had a case of sunstroke in a man with powerful, bounding pulse, throbbing temporal arteries, suffused face, and plenty of circulatory force, I might bleed, but I repeat I have never seen such a case.

After the patient recovers consciousness, if there be violent headache, bleeding, either local or general, is the thing to be done. Many years ago a prominent physician of this town had sunstroke. His first remembrance after recovering consciousness is of his father, who was also a physician, standing over him with a medical friend. He awoke with a splitting headache. He said to them, "Bleed me." They refused. He said, "Bleed me, or I shall die." They then bled him, and at once the headache was relieved, and all danger of future trouble was averted. That man was suffering from secondary cerebral congestion. If he had not been bled he would probably have been either immediately or secondarily disabled by cerebral inflammation.

During the past week I saw a young physician of Philadelphia who had sunstroke a week or ten days ago. He was in the city at the time, but on recovering consciousness went to the sea-shore. He then had excessively violent headaches. He went to several physicians and asked them to bleed him locally. They refused, and the headaches continued until he was attacked with severe bleeding from the nose, which was so profuse as to cause some alarm. The epistaxis occurred a second time, and since then there has been no headache. I believe that the epistaxis saved that man's life, or at least his mental organization. He was in the forming stage of a subacute meningitis. He ought to have been bled, and the physicians failing to do their duty, the mucous membrane of the nose fortunately being tender the man was bled by nature, and thereby his brain was relieved. The man has now perfectly recovered.

In the present case the symptoms of meningitis have not been such as to require active treatment. The man requires simply quiet, rest, and tonic treatment. In these cases tonic treatment should not be resorted to too early. The danger is not from weakness, for this will be recovered from in time, but it is from cerebral inflammation. It is better to let the man

remain weak for two or three months than by trying to rapidly raise him up start a fire in his brain.

After an attack of sunstroke it is imperative that the patient should avoid excessive heat for many months. In the early weeks following the attack he should avoid the glare of the sun, mental exertion, cerebral excitement, and everything that would tend to increase the danger of meningeal inflammation.

CHRONIC CEREBRAL MENINGITIS.

This man states that for the past three months he has suffered from a steady pain in the head, which occupies the vertex and is fixed. Its severity is at times increased. Previous to four months ago he considered himself to be in his ordinary health. Since the appearance of headaches he has had vertigo and some numbness along the inner sides of the legs. There has also been some alteration in his disposition and some loss of memory.

Without going further into the history you can see at once that there are present symptoms of meningitis. There is a persistent severe pain in the head, a certain amount of alteration of disposition, loss of memory, and giddiness; there is also a diffused irregular numbness in certain parts of the body. In this instance we have the symptoms of cerebral meningitis. These symptoms also occur in brain tumors, but tumors are very often associated with cerebral meningitis, and it is sometimes impossible to diagnosticate tumor from meningitis if there be no symptoms of localized trouble. If with the symptoms of meningitis we found some local paralysis, a facial monoplegia for instance, or certain localized convulsions in one part of the body, or if there were persistent clearly localized numbness, we should have more reason for believing that the man was suffering from tumor. There may be a tumor associated with this meningitis, but the symptoms are clearly explainable on the supposition that the man has meningitis. The peripheral gray matter is supplied with blood from the brain membrane, and therefore when there is disturbance of the circulation of the membranes there is disturbance of the gray matter. I believe that you never have pain in the head as the result of pure disease of the gray matter unless the disease be of such nature as to alter the pressure in the brain. This man has evidently meningitis or a tumor, but the probabilities are in favor of the former condition.

Having arrived at this conclusion so far as the disease is concerned, the next thing is to search for the existence of a cause. The three most common causes of chronic meningitis in the non-tubercular adult are injury, sunstroke, and specific disease. A case of non-tubercular subacute or chronic meningitis not the result of one of these three causes is excessively rare.

The notes of this case state that the man met with an accident some months ago in which he had three ribs broken, but he is not certain that he was struck on the head. He was unconscious for a few minutes after the injury. He was in the hospital under treatment for some time. On leaving the institution he noticed severe headache accompanied with great vertigo. He also gives a history of two sunstrokes, one occurring in 1856 and the other in 1862. Since the last attack he has had headache off and on, but not so constantly as since the accident. He also acknowledges having had venereal disease thirty-five years ago. We have, then, all three causes of meningitis present in this case.

Is there any way by which we can determine the rôle which sunstroke plays in the production of these symptoms? I think there is. We must investigate as to the rapidity with which the headache followed the sunstroke. The headaches which he has had since shortly after the last sunstroke have not been very decided nor very steady, and I think that it is perfectly plain that the sunstroke could not have set up a genuine meningitis. This man has not been incapacitated from following his trade as a carpenter. Has been able to work out-doors during the hottest summer weather. This would not have been possible had he had a meningitis lasting for twenty-two years. The sunstroke may have produced a condition of impaired nutrition of the brain and a weakening of the vessels, which would render them less resistant to any cause which would produce inflammation.

When we come to the question of the rôle played by the venereal sore and the accident, we come to a question which cannot be positively settled. I think that it may be considered well established that when a man has a venereal taint the local manifestation of that taint may be decided by an accident. Such a person receives a blow on his shin, and he has a periostitis excited by the blow, but the inflammation is of the specific type. If the same person had received the blow on his skull he would have had an inflammation of a specific type set up in that locality. There are one or two reported cases in which cerebral syphilis has in the same way followed sunstroke. The sunstroke has been the exciting cause, — the match which has fired the gunpowder which was there all ready to be exploded.

Again, the injury was of itself possibly sufficient to account for the meningitis without the existence of a venereal taint. The man evidently received a severe blow on the head. Ordinarily, however, a blow which produces only a few minutes' loss of consciousness, as happened in this case, does not result in inflammation. While we cannot say positively, then, that the syphilis has had anything to do with the occurrence of the disease, it is very probable that it has, and that there is a specific meningitis started by the local injury, although it is possible that the injury may have been the sole cause of the attack.

The treatment in this case will consist in the administration of iodide of potassium in amounts sufficient to produce iodism. Even in cases where there is no reason to suspect specific taint the use of iodide of potassium, associated with counter-irritation, is the best plan of treatment of chronic meningitis.

— The people of British Columbia are becoming alarmed at the negligence shown by the government in not providing suitable isolated quarters for the Chinese lepers at present confined in the jail at Victoria. At the last meeting of the city council it was moved and carried that the provincial government be requested to communicate with the dominion government with a view to have the necessary steps taken for the erection of a leper hospital. The mover knew of several cases, two of which were in the city jail. The Chinese doctors of the city believe the disease to be so contagious that the people are liable to catch it by inhaling the breath of a leper, and the mover believed that many young men had caught the disease by smoking cigars made by Chinese lepers.

Original Articles.

SUMMARY OF SIX HUNDRED CONSECUTIVE CASES OF MIDWIFERY.[1]

BY W. W. WELLINGTON, M. D., CAMBRIDGEPORT.

Natural Labor. Four hundred and fifty-six cases; about seventy-five per cent. Under this title are included all cases in which the head presented, and in which there was no occasion for instrumental or manual interference in the delivery either of the child or of the placenta, and no serious post-partum hæmorrhage. A few of the cases were protracted beyond twenty-four hours.

Face to Pubes. Seventeen cases. Twelve of the cases of natural labor presented this peculiarity, and are included under that head; four were in cases of instrumental labor, and one was in a case of twins.

Rupture of Perinæum. Thirty-eight cases. Thirteen occurred in instrumental labors. All were sutured, and in all but five the edges united.

Breech Presentations. Nineteen cases.

Footling Cases. Two.

Knee Presentation. One.

Instrumental Cases. Eighteen. All by forceps. Perforation of head not required in any case.

Turning. Six cases. In one of these cases the head was at brim of pelvis with face to the front; child still-born.

Convulsions. Eight cases. Seven mothers recovered. The eighth recovered from the convulsions, which occurred at the end of the seventh month, but nine days afterward she had hæmorrhage from partial placenta prævia, and was delivered by turning. She died five days after from septicæmia. Three of the babies were still-born.

Twins. Nine cases.

(1.) A boy weighing ten pounds, and a girl six pounds. Both breech presentations. Second child was born enveloped in its membranes, and immediately following it both placentæ.

(2.) In one head presented; in the other the feet. Placentæ were separate. Considerable hæmorrhage.

(3.) Both still-born. Both head presentations, the last being face to pubes. Placentæ united.

(4.) A boy weighing eight pounds, and a girl weighing six pounds. Both born before my arrival. Both were reported as having been head presentations. Placentæ were united.

(5.) First child, breech presentation; second, head. Placentæ united. One of the umbilical cords had in it a loose knot.

(6.) Both head presentations.

(7.) One born before my arrival; the other lay crosswise, and was delivered by turning. Placentæ separate.

(8.) Seven months' children. Both head presentations. Placentæ separate.

(9.) First baby (breech presentation), pains dying away, was delivered by pulling down feet. Second baby (breech presentation also) was delivered in the same way. Placentæ not following in a reasonable time they were peeled off (they were united) and extracted. Severe after-pains followed, succeeded by fainting. Found uterus full of clots, and removed them. In doing this an irregular contraction was discovered in upper part of uterus, the upper chamber containing a piece of placenta; removed it. Uterus then contracted, and there was no more flowing. Ergot was given during these transactions, also rum, this being the only liquor at hand. Mother and children did well.

There were seventeen cases of retention of the placenta; nine cases of excessive hæmorrhage after delivery of placenta; and two cases of what seemed to be partial separation of the placenta before the delivery of the child.

In the cases of retention the placentæ were removed manually. The majority of them resulted from irregular contraction of the uterus. In a few there were morbid adhesions.

The cases of hæmorrhage after the birth of the placenta were treated mainly by emptying the uterus of coagula, pressure on uterus to secure its contraction, and giving ergot and stimulants.

The two cases of probable separation of placenta before the birth of the child may be worth particularizing.

(1.) The woman flowed several times during the last six weeks of pregnancy, sometimes passing large coagula. Placenta prævia was feared. No portion of placenta, however, was over os. The birth of the child was easy, but a large discharge of blood followed immediately, and the woman became faint. The placenta came away naturally.

(2.) Labor at full term. Pains began at five A. M. At nine A. M. I visited the patient, and learned that for an hour or more she had had fainting turns. Pains were good, the os was dilated, and membranes were protruding. Fainting turns continued. Pulse became slow and feeble. I ruptured the membranes, and the baby was soon born. The exit of the child was followed by a large gush of blood. The child was dead. Introduced hand into uterus, found placenta detached, and delivered it at once. Uterus contracted and hæmorrhage ceased. Severe after-pains followed.

One other case of interest may be mentioned. The labor was natural; four hours in duration. On the seventh day after delivery, in consequence, apparently, of undergoing considerable excitement, uterine hæmorrhage came on. This subsided the next day. On the ninth day it came on worse than before, making it necessary to empty the womb and give ergot. The bleeding again ceased. The next day the hæmorrhage returned, but soon subsided, and uterus could be felt well contracted. On the thirteenth day after delivery the bleeding recommenced and continued till the next day, when a solution of ferric alum was injected into the uterus. This stopped the trouble.

Prolapse of Bladder. Two cases. Both appeared as smooth, fluctuating swellings before the advancing head. In each case the catheter introduced into the urethra could be traced into the swelling. The urine having been drawn off the bladders were pressed up, and as the heads advanced they disappeared.

Placenta Prævia. Three cases; all partial.

(1.) Patient seven months pregnant. Slight flowing at intervals for a fortnight; rather severe for six hours. Edge of placenta was separated from its attachment, the head of child descended, and the hæmorrhage ceased. Child still-born.

(2.) Labor three weeks premature. Flowing came on followed by pains. Os partially dilated, and edge of placenta could be felt. Head could also be felt,

[1] Read before the Obstetrical Society of Boston, October 11, 1884.

which slowly descended, and hæmorrhage gradually ceased.

(3.) When seven months pregnant had three convulsions, the urine being albuminous. Nine days afterward flowing came on, followed by labor pains, and partial placental presentation was discovered. Child was delivered by turning. Woman died three days after of septicæmia.

Prolapse of Umbilical Cord. Two cases. In each case cord was found prolapsed on arrival and with no pulsation. Both babies still-born.

Spina Bifida. Two cases.

Thrombus of Labium. One case. The labor was normal. A thrombus of left labium was discovered the next day, severe pain having been felt in external organs since the previous afternoon. Labium was everted; color was livid; the parts were very tender; discoloration extended through perinæum and upon the nates. Distention was chiefly internal, nearly closing vagina. The effusion of blood was large. On the third day the thrombus ruptured, and a large amount of coagula was discharged. These coagula continued to be discharged for several days. The woman suffered but little pain. On the ninth and tenth days there were headache and febrile disturbance. On the nineteenth day the cavity was contracting with slight purulent discharge. On the thirtieth day the patient reported herself as well.

Phlegmasia Dolens. Six cases.

Cystitis after Delivery. Four cases. One of these cases was a severe one, lasting three months. The woman was delivered by forceps. The perinæum was lacerated to sphincter, and there was also a serious laceration of the cervix. The cervix had been much elongated and thinned during labor, having been pushed along before the vertex, and with difficulty kept back as the vertex advanced. The laceration was discovered while wiring the perinæum. Both perinæum and cervix healed well.

Ophthalmia Neonatorum (purulent) occurred in two cases. Both cases recovered.

Two acephalous monsters.

The Umbilical Cord was wound round the neck of the child twice in two cases, and three times in one case, so tightly that it had to be cut before delivery could be effected. In neither case could the cord be carried over the head or the shoulders.

Septicæmia. Three cases. One died, and two recovered. In neither case were antiseptic injections made into the womb.

Vesico-Vaginal Fistula. One case. The labor was natural, lasting about sixteen hours. A fistula manifested itself on the third day after labor, much to my surprise. There seemed no sufficient cause for its existence. An operation was performed for its cure with partial success. The woman would not consent to a second operation, and I afterwards lost sight of her.

Deaths. Five in number.

(1.) Metritis followed by puerperal mania. Died at end of second week.

(2.) Convulsions at seven months. Urine scanty and albuminous. There were only two. Nine days after there was uterine hæmorrhage, caused by partial placenta prævia. Child was lying crosswise. Os was dilated, membranes were ruptured, and delivery was effected by turning. Five days afterward the woman died of septicæmia.

(3.) Died of puerperal peritonitis.

(4.) Died eight days after labor, and after two days of terrible dyspnœa from valvular disease of heart, which had afflicted her for a considerable time before her labor.

(5.) In the midst of a severe attack of pneumonia, patient being at full term of pregnancy, labor pains began. At the end of twelve hours, the pains slackening, and the head lying low in the pelvis, the forceps was applied, and delivery was effected. No bad puerperal symptoms followed, but death resulted from pneumonia six days after labor.

If the last two cases be deducted, in one of which death resulted from valvular disease of the heart, and in the other from pneumonia, the number of deaths will be three, or one in two hundred.

CASE OF EXTRA-UTERINE PREGNANCY. RUPTURE; PERITONITIS; RECOVERY.[1]

BY E. E. MONTGOMERY, M. D.,
Obstetrician to the Philadelphia Hospital.

MARCH 19, 1884. Mrs. M. has had four children and two miscarriages, the last miscarriage occurring some four months since. She has for several years suffered from chronic phthisis. Menstruation was absent for two periods, but two weeks ago she had a bloody discharge for several days. Although she had been suffering from the phenomena usual to her in early pregnancy she then concluded that she was not pregnant.

On the 18th, after a fright, she was taken with severe pain in the right side, which, continuing to grow worse, was attended by frequent micturition, a sensation in the pelvis of weight or bearing down, intermittent vomiting, and a serous vaginal discharge. Her husband called at three A. M. to-day (March 19th), informed me she had cramps, and asked for a prescription for her relief. I gave a prescription containing morph. sulph., one eighth grain to each dose, to be given every two hours until relief.

I saw her at eight A. M., when she was quite pale, complaining still of pain in the right inguinal region. As I had a clinic at nine A. M. I made a hurried visit, injected morph. one fourth grain, hypodermically, and ordered ℞ quin. sulph., two grains, ext. opii, one half grain, in pill, every three hours.

Five P. M. Pain somewhat relieved; stomach very irritable, would retain nothing; pain greatly increased by vomiting; face pinched, pale, and anxious looking; lips bloodless; pulse 90. Bimanual examination disclosed the uterus slightly enlarged and retroverted. Douglas's cul-de-sac presented a mushy or doughy sensation. On the right side could be felt a small, irregular-sized mass, which was diagnosticated to be an escaped fœtus from a tubal pregnancy. The pills were discontinued, and ext. op., one grain, in suppository, substituted, to be given every six hours, and an alkaline mixture and one half fluid ounce each of milk and lime-water were given every three hours by the stomach.

March 20th. She slept poorly, but does not suffer so much from pain. There is marked tenderness over the lower part of the abdomen, more marked upon the

[1] Read at a meeting of the Philadelphia Clinical Society, October 24, 1884.

left side. Examination per vaginam. The mass is felt posterior to the uterus, and is quite hard and tender upon pressure. The uterus is fixed. Pulse 90. Vomited once. She has been kept perfectly quiet. The bladder relieved by the catheter. ℞ quin. sulph., five grains, ext. op., one and one half grains, in suppository, every six hours.

March 21st. General condition better, though she slept but little. The introduction of the suppositories was attended with so much pain that they were discontinued, and morph. sulph., one sixth grain, with quin. sulph., two grains, given every three hours by the mouth.

March 22d. Some sickness of the stomach. Pulse 88. Temperature normal. Very nervous; easily disturbed. Abdomen still tender to pressure. Returned to the use of the suppositories. Slept well last night after tr. op. deod., twenty-five drops, were given.

March 24th. Temperature normal. Pulse 80. Abdomen still tender, especially over the lower portion and left side. Movement attended with pain. The suppositories induced so much pain that they were discontinued, and tr. op. deod., thirty drops, given by the mouth every three hours.

Subsequent to this date the convalescence was gradual. She regained her strength very slowly. She left the city the latter part of July, returning about the middle of September again pregnant.

Upon examination a few days ago the uterus was found enlarged to the usual size at two months, and posterior to it could be felt a smaller mass, in which the remains of the former gestation were evidently encapsulated.

In such cases it becomes an important question to decide when we should proceed to surgical measures.

Notwithstanding the successful termination of this case I would not uphold the treatment as the one most likely to yield a favorable result.

Had the symptoms of shock and internal hæmorrhage persisted during the third day as upon the second it was intended to make an abdominal incision, remove the fœtus and effused blood, and ligate the bleeding vessels. Such a course, pursued with the advent of the characteristic symptoms, would, without doubt, decrease the mortality of the accident.

A CASE OF EXTRA-UTERINE PREGNANCY TREATED SUCCESSFULLY BY ELECTRICITY.[1]

BY JAMES SIBBALD, M. D.

MRS. R., aged thirty-four years, a woman weighing 107 pounds, of spare build and exceedingly nervo-bilious temperament, was married when twenty-one years of age, and had a miscarriage about five months subsequently, since which time (for thirteen years) she was never pregnant. although very desirous of becoming so.

Her menstrual periods were always regular and natural up to June 16, 1884, at which time there was no sign of menstruation. One week later she commenced feeling sick in the morning, and also complained of soreness, with decided tenderness on pressure, over the right inguinal region, which gradually increased in severity. At the same time bloody discharges would appear, with no regularity, every week or two, lasting from a few hours to several days.

On July 3d, while standing in the street dealing with her butcher, she was suddenly seized with a violent pain in the abdomen, which caused her to fall in the street. She was picked up and carried to her bed. Morphia was administered hypodermically and poultices applied for six days before the tenderness subsided. For the next three weeks there was more or less tenderness over the right inguinal region.

On August 4th (just one month after the first attack) she had a second attack of local peritonitis, which lasted five days. At this time she was sweeping the floor, when she suddenly fell, overcome by the severe abdominal pain.

After the acute symptoms of the first attack had subsided a vaginal examination revealed a soft mass on the right side of the uterus, very sensitive to pressure, and displacing that organ to the left. The sound was passed cautiously into the uterus a distance of over four inches without obstruction. These facts, in connection with the cessation of menses, morning sickness, some enlargement and soreness of breasts, with occasional bloody discharges from the uterus, warranted a diagnosis of extra-uterine pregnancy.

On August 18th Dr. Montgomery saw the case in consultation, and coincided in the diagnosis. He advised the destruction of the fœtus, which was now in about the eleventh week of gestation, by means of electricity. Eight applications of the battery were made, which had the desired result. The mass is slightly perceptible on examination at the present time, the womb being still displaced to the left side. Menstruation has returned twice since, being perfectly normal, and no inconvenience is now experienced.

[1] Read by Dr. E. E. Montgomery at a meeting of the Philadelphia Clinical Society, October 24, 1884.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M. D.

ON CHANGES IN THE NERVOUS APPARATUS OF THE INTESTINAL WALL IN PERNICIOUS ANÆMIA AND IN GENERAL ATROPHY.

SASAKI[2] has carefully studied the intestines coming from fifty autopsies, and in two, cases of pernicious anæmia, marked changes were found in the nervous plexuses. One of these cases corresponds closely with those already reported by Jürgens[3] and Blasko,[4] while the other presents different and further advanced lesions.

The method employed was as follows: Pieces of the intestine were preserved, part in alcohol, and part in Muller's fluid.

The examination of Meissner's plexus was comparatively easy. Bits of the mucous membrane were torn off with the forceps, and then the submucosa was carefully separated from the muscular coat. The pieces were placed for twenty-four hours in very dilute acetic acid (1 to 400) in order to clear up the connective tissue, washed for a few hours in water, stained with picro-carmine, and examined in glycerine.

Auerbach's plexus, on the other hand, presented

[2] Virchow's Archiv, Bd. 96, S. 287.
[3] Berl. klin. Wochen., No. 28, 1882.
[4] Virch. Arch., Bd. 94 S. 136.

more difficulties. Portions of the intestine were left for a day or two in a weak solution of bichromate of potash (0.5 of the salt to 200 c. c. of water). The muscular coat was laid bare as above. Then with the aid of fine forceps and a hand lens the bundles of the circular layer were separated from those of the longitudinal, which latter, in the case of adults, can never be torn off in sheets. In this way specimens could be obtained entirely deprived of the inner coat, and consisting only of the longitudinal fibres with the peritonæum and subperitoneal tissue. The net-work of nerves was found spread out upon this surface. They were then treated with acid, as the others, and colored. In the staining care was exercised to have the muscular coat come in contact with the fluid. This usually took from twenty to thirty minutes.

The Microscopic Appearance. In the normal intestine of the adult Auerbach's plexus presents itself as a net-work of large bundles of nerve fibres, with here and there accumulations of ganglion cells. The size of such ganglionic nodes varies greatly; it may reach 0.18 mm. The nerve cells are placed closely together, and have a length of from 0.014 to 0.032 mm. Their shape is either polyhedral or elongated, and they are composed of a finely granular protoplasm, in which is imbedded a distinct nucleus and nucleolus. Besides these are found at the points of intersection numerous small spindle cells which belong to the sheath of the ganglion. From these nodal points broad projections are thrust out, which consist of rows of nervous elements or branches of pale nerve fibres. The same small elongated bodies are also to be seen in these branches. The nerve fibres appear almost homogeneous.

The examination of the first case of progressive anæmia revealed an extensive change in all the nervous elements throughout the entire intestine. On the first inspection it appeared that the ganglionic cells of the plexus myentericus were separated by a considerable interval from each other, and were extremely small and deformed. The greater number reduced to one third of their normal size. The protoplasm was very granular, contained yeliow pigment, and the greater number were without nuclei. Many cells had a glancing, homogeneous appearance, and resembled those which have been described as "sclerosed," and which have been found after lead poisoning. Between such lay a pale, finely granular mass, which the author believes was produced by their entire destruction. The small spindle cells were diminished rather than increased in number, and no thickening of the connective tissue sheath of the enlargements could be detected. The nerve fibres were narrower, were finely granular, and had lost their capability of taking coloring material. Many could only be recognized by their longitudinally striated look and scattered nuclei. Besides the "sclerosed" cells there were found numerous glancing, homogeneous particles of different size (0.003 to 0.03 in diameter). These lay partly in the plexus, in the nerve bundles or near them, and partly isolated, between the muscular fibres. Some were round or oval, others resembled a ring surrounding a ball, but with no concentric arrangement; and in many still smaller granules were found. They stained but slightly with picro-carmine, resisted the action of acetic, sulphuric, or nitric acid; neither did they dissolve in ether or take on a peculiar color with iodine. From this they correspond with the substance which von Recklinghausen has called hyaline. These bodies were often present in the intestines of old people, but never so abundantly as in the cases under consideration. They seem to have a relation with the corpora amylacea, and like them are normally found in small numbers. Their presence in large numbers is associated with a chronic atrophic process. The question as to their origin is not easy to answer. The fact of the presence of granules of a similar substance in the spindle-shaped cells of the neurilemma points to them as a probable source.

In Meissner's plexus similar changes were found. Small, wrinkled ganglionic cells, with granular protoplasm, and without nuclei, separated from each other by abnormally large intervals composed of a fine granular mass. The nerve fibres were granular, and stained poorly.

In regard to the muscular coats it may be said that they appeared narrower, and the fibres were thin, and opaque from the presence of minute drops. Elongated nuclei were rare.

In the vessels there was no marked change beyond the diminution in the number of nuclei. The papillæ were small, short, and cloudy, the glands shrunken, and their cells disintegrated.

In the second case the intestinal wall was not especially thinned, yet there was found a marked fatty degeneration of Auerbach's plexus throughout the entire canal. The muscular fibres were also affected in the same way, but to a less extent. Osmic acid was especially useful in demonstrating this. The ganglionic cells were mostly destroyed, but here and there perfect ones were to be met with. In the nodal points the fat drops were irregularly distributed, and not always in association with cells. The nerve fibres were filled with oil globules. Meissner's plexus was less markedly implicated. Its cells had in many places lost their sharp contour, and even looked like mulberries. Very little fat was noticed. The villi were of normal size, but showed a parenchymatous degeneration. The vessels showed nothing abnormal.

If the literature of pernicious anæmia is compared in its ætiological, clinical, and anatomical relation it is found that the course is irregular, extending over periods varying from six or eight weeks to several years. From this it is easy to believe that the disease may arise from different causes and represents no single process. Lépine has distinguished three forms in regard to origin: —

(1.) Lienal (splenic) and medullary form.
(2.) Gastro-intestinal.
(3.) That occurring during pregnancy.

The author regarded his two cases as belonging to the second class, which includes about one fourth of all cases.

The question still remains to be answered, what relation do the anatomical changes in the ganglionic apparatus and the atrophy of the intestines have with the general anæmia? Are they to be considered as primary, or as a partial expression of the general affection? In order to obtain information on these points eighteen intestines, which were atrophied in consequence of cancer, phthisis, or old age, were examined. In these cases were also brown atrophy of the heart and liver, and a small spleen. In the intestines there was found a thinning of the muscular coat, with a granular clouding and pigmentation of the ganglion cells of both plexuses. Fat drops were only found in the cases of cancer, and were usually distributed in the periphery around the nucleus. The form of the cells was

never altered. This, then, is considered to be a fatty infiltration rather than a degeneration. From this it would appear that a simple atrophy does not produce a degeneration of the nervous apparatus of the intestine; therefore the changes in these cases are regarded as those of origin. In both cases, also, there were symptoms referable to the intestinal tract, such as pain, vomiting, and diarrhœa, which could have had a marked influence on the formation of blood.

Was the atrophy of a chronic catarrhal or neurotic nature? For the first, which according to Nothnagel is the most common, would appear the slaty discoloration in the ileum, the regular injection of the mucosa of the jejunum, and the small cicatricial depressions in the cæcum. But all these are often found unassociated with atrophy, and without producing any symptoms during life.

The conclusions which are drawn are as follows: —

(1.) It is highly probable that the gastro-intestinal form of pernicious anæmia may be produced by recognizable anatomical lesions in the intestine.

(2.) Pernicious anæmia can be caused by an atrophy of the intestines. The correlated change in the nervous apparatus coming under the class of parenchymatous degeneration.

(3.) In the affection of the intestine which is not diffuse, and does not extend over a large area, the changes in the plexuses are restricted in a corresponding manner.

ON TONSILS AND LYMPHATIC FOLLICLES.

This article is the first of a series by Stöhr[1] on the conglobate bodies called the "peripheral lymph glands." They differ from the lymph glands proper, which are interposed in the lymph current, on account of their situation and the relation which they bear to an epithelial covering.

The mucous membrane of the mouth and pharynx is marked in some places by the presence of closely aggregated leucocytes. These appear either in the form of more or less sharply bounded uniform infiltrations, or as the so-called follicles (adenoid tissue of His, cytogenous tissue of Kölliker, or conglobate gland substance of Henle). This tissue, in parts, assumes the shape of prominences, partly projecting into the pharyngeal cavity and partly sunk in the depth of the mucosa. These are often complicated by numerous infoldings, and thus are formed the follicles and tonsils (palate, tubal and pharyngeal tonsils). Stratified pavement epithelium covers the surface and follows it through all the furrows to their deepest parts.

If sections of the human tonsil, perpendicular to its surface, are studied it is often very difficult to follow this epithelium to the bottom of the clefts. At times extremely narrow prolongations can be detected. At others even this is impossible, and the typical cells seem to be replaced by elements which are identical with the round cells of the adenoid tissue. This, however, is not the case. The flat epithelium is always present in the same thickness (in places even thicker), but is so permeated by leucocytes that it is only by aid of very fine sections and successful coloring that its existence can be demonstrated. This infiltration may extend over the entire covering of a furrow and suggest the possibility of a pathological change. Usually it is much more restricted in its extent.

The appearances thus briefly depicted are the results of an extended migration of indifferent cells through the epithelium into the buccal and pharyngeal cavities. And far from being of a pathological nature, this is to be regarded as a normal process. And wherever accumulations of round cells lie directly beneath the epithelium great numbers of them find their way out and appear on the surface as mucous and salivary corpuscles.

Careful examination shows that the path which they follow lies in the cement between the epithelial cells, and that their nuclei are curiously shaped, often lobed or curved like a horse-shoe. In some the nucleus is represented by several small fragments, the sum total of which would not exceed a normal one. These are never found in the proper adenoid tissue of the gland. Whenever there is fibrous tissue between the covering and the gland the former has very few leucocytes.

The epithelium covering the follicular glands in the adult is permeated throughout in the same way.

From the examination at different ages and from different animals it appears that the wandering of the cells commences at the time of birth and continues during life if not interrupted by disease, and that it is a constant appearance, which can be verified on every mammal that has tonsils.

The possibility of these paths of egress serving as those of ingress for micro-organisms is suggested, but there is no proof given.

ON THE EXTENT AND CONNECTION OF THE LYMPHATIC TISSUE IN THE PHARYNX.

Bickel[2] has undertaken an investigation of the above subject in view of the relation in which the pathological processes known as angina and diphtheria stand to the tonsils; the points being to determine exactly how far adenoid tissue extends, and what structures are to be considered as tonsils. These are determined by a comparison of the literature of the subject, and by the examination of the pharyngeal region in twenty-four cases.

The first step is to find out in what form the lymphatic tissue presents itself in the pharynx. Of the chief importance is the tonsillar form. As characteristic of this is the tonsilla faucium, or palatina, of which the following are the structural peculiarities: —

(*a.*) Circumscribed form.

(*b.*) A thickly diffused infiltration of connective tissue with leucocytes within which lie small follicles.

(*c.*) Crypts, that is, blind pockets covered with epithelium dipping down into the lymphatic structure.

(*d.*) The direct contact of the gland cells with the epithelium, and increase of the surface from the furrows and clefts.

To these four points can be added: the presence of a large number of mucous glands, the ducts of which open at the bottom of the furrows. This is not absolutely necessary, but should not be left unnoticed.

According to this description only the tonsils of the pharynx deserve the name in addition to those of the fauces. On the other hand, those of the Eustachian tube as well as the follicular glands of the tongue are to be regarded as more superficially extended formations, having no marked aggregation of mucous glands. In other words, as transitional forms from a simple infiltration of adenoid tissue. Of this last three degrees are distinguished as occurring in the throat: —

(1.) One so marked that the lymph cells entirely hide the presence of the connective tissue.

[1] Virchow's Archiv, Bd. 97, S. 211.

[2] Virchow's Archiv, Bd. 97, S. 340.

(2.) Where the cells and tissue have about the same proportions.

(3.) Where the fibrous tissue exceeds the round cells.

From a comparison of the published descriptions of the pharyngeal region it can be stated that there is a perpendicular ring of lymphatically infiltrated mucous membrane, marked by scattered follicles. This begins above with the accumulation at the vault (pharynx tonsil); passes then to the opening of the Eustachian tube, where there is another marked aggregation of follicles; from there it turns downward along the posterior edge of the velum palatinum, around the posterior pillars of the fauces, to the tonsilla faucium, then obliquely across the back of the tongue, to return in a similar manner to its starting point. Professor Waldeyer has given to this the name of the "lymphatic ring of the pharynx."

As the result of the anatomical examination the following is apparent:—

The palate tonsils are present in the fœtal condition as well as during the first year simply as an infolding of the mucosa. A slight elevation appears first at the bottom of the depression thus formed, and gradually projects beyond the line of its opening. The edge of this lies as a sharply-defined narrow line on the base of the newly-formed tonsil. This line can often be made out in later life, but only as an incomplete circle. The others present an entirely different method of development.

On the base of the tongue strongly marked folds of the membrane are found in the fœtus. These disappear after birth, and in reverse relation to their retrogression are formed the follicular glands of the tongue.

A similar process is seen in the pharynx; here it looks as if the entire membrane of the throat would become a huge tonsil; fine longitudinal folds directed towards the base of the skull deepen, often almost imperceptibly, into the pharyngeal tonsil. Folds of a like nature mark the boundary of the tubal opening and the anterior and posterior surface of the soft palate.

In the course of the first twelve months of life these folds become obliterated, and there only remains the tonsils of the pharynx and tube. Microscopically those raised portions present a diffuse round cell infiltration, with numerous rounded aggregations.

From the above mentioned ring the adenoid tissue extends out into the floor of the mouth with varying strength and frequency. It reaches from the posterior surface of the soft palate into the nasal cavity in an amount varying with the individual, but can generally be recognized as far as the anterior ends of the inferior turbinated bones.

Also it reaches over the epiglottis down into the larynx as far as the glottis spuria.

The tendency to a greater or less susceptibility to acute infectious processes seems to be connected with the greater or less abundance of lymphatic tissue. The richer and more extended this is, the greater will be the possibility that the epithelial covering will be loosened by the continual passage of cells through it, and it is easy to imagine that by this means the deeper seated layers would be more exposed to injuries coming from without.

TUBERCULOSIS OF THE TONSILS.

Strassman [1] has examined twenty-one cases of tuberculosis in reference to the frequency of implication of these glands. It has seldom been observed according to the literature on the subject, although the position at the entrance of the respiratory and digestive apparatus would be extremely favorable for infection, and the structure is essentially the same as that of other parts of the lymphatic system which are notably affected. The author, however, found it in thirteen of his cases, but it was present almost exclusively in the form of minute tubercles. At times there were large numbers in a single section, at others only a few in many cuts. These bodies were rich in giant cells, while the bacilli were scattered. The adjacent tissue was scarcely affected.

With the eye alone it was only with difficulty that their presence could be detected, and they were found under the most varying condition of the gland, some normal, some atrophied, some hypertrophied, with or without concretions.

The question naturally arises, are these to be regarded as of primary origin, or are they secondary, due to infection with sputa, etc. From the results of experiment of inoculation by feeding, Baumgarten was inclined to the view contained in the first half of the question. The author, on the other hand, from an analysis of his cases, thinks that it must be an accompaniment of tuberculosis of the lungs, and that there is no evidence in support of a primary affection of the tonsils and a subsequent absorption of poison from them. Clinical importance is hardly to be ascribed to it.

[1] Virchow's Archiv, Bd. 96, S. 319.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M. D., SECRETARY.

NOVEMBER 10, 1884. The President, DR. CHARLES D. HOMANS in the chair.

PERIOSTEAL SARCOMA OF THE FEMUR.

DR. E. H. BRADFORD showed the specimen and gave the history. The first symptom was a small swelling of the upper thigh in August last. This gradually increased until within the last two weeks, when the tumor has grown rapidly. Last week aspiration removed blood, in consequence of which he amputated at the hip-joint. In amputating Dr. Bradford first excised the head of the femur, then amputated the femur at the junction of the middle and upper thirds, using the Esmarch rubber tube to control the hæmorrhage. After all vessels were tied and bleeding stopped the rest of the femur and the remainder of the tumor were dissected out. Hardly any blood was lost, and to-day, the fourth after the operation, the patient is in good condition.

PREVALENCE OF SCABIES.

DR. F. B. GREENOUGH asked if members of the Society had seen any great increase in scabies. The disease has not been common here for some time until of late, but recently he had seen a great many cases. There were six new ones at the Boston Dispensary to-day. He had traced one nest of thirteen or fourteen comparatively well-to-do people to others bringing the disease from Gloucester, where it is said to prevail among Portuguese fishermen. Other men engaged in dispensary work had seen an increase.

Dr. J. C. White stated that he had observed the same increase in the prevalence of scabies in Boston and vicinity during the last year, and was unable to account for it inasmuch as immigration, upon which we depend for our supply of the disease, had not been especially active during this period. He had seen several marked fluctuations in its occurrence in the last twenty-five years. Before the War of the Rebellion it was so little seen as not to be recognized by practitioners, and during the war it was regarded, in the armies, as an unusual form of the affection, and extended from them over the whole country. Later it was imported to a large extent by European immigrants during prosperous times, but with business depression subsided, and was seldom seen outside of returned cattle drovers from England until this recent revival.

UNUSUAL CASE.

Dr. W. C. B. Fifield reported the case. A gentleman left his office well in the afternoon, in the middle of June. Was attacked suddenly in the street with profuse perspiration, and became so sick that a lady gave him her seat in a horse car. He was, however, able to walk a quarter of a mile to his home in the suburbs, and to eat supper, feeling generally improved. The next day he apparently had acute dysentery, losing an unusual amount of blood. He had at that time grave mitral disease. Pulse rapid, and temperature 103° F. to 104° F. Treatment consisted of Epsom salts and opiates. In ten days dysentery disappeared, and the pulse and temperature fell. This gain was quickly succeeded by rheumatic iritis, first of the left and then of the right eye, to be followed in its turn by acute rheumatism of most of the joints and tenderness of the liver, with vomiting, which vomiting was relieved by a blister over the liver. Rheumatic remedies had no effect, nor had opiates unless given subcutaneously. As the joints recovered and the temperature fell, a profuse diarrhœa set in, the dejections resembling the rice water of cholera, and as this diarrhœa ended articular rheumatism returned. There was a dejection of pure pus, after which, as the articular symptoms abated, the eyes were again attacked in succession by iritis; then followed another articular rheumatism, and the last symptom was a third iritis of the left eye.

Aside from opiates the treatment which was of service was peptonized milk, and for the eyes atropia. During the third attack of iritis of the left eye, atropia in the strength of five grains to the ounce, was used persistently before it dilated the pupil.

To a question by Dr. Greenough Dr. Fifield answered that there was no hereditary history of rheumatism, and to one by Dr. Minot, that the heart remains as before.

HYDROCHLORATE OF COCAINE IN GENITO-URINARY, EYE, AND THROAT SURGERY.

Dr. A. T. Cabot reported several observations upon the anæsthetic properties of hydrochlorate of cocaine, showing its power of annulling sensation upon the mucous membrane of the urethra, glans penis, and prepuce: —

Observation 1. An elderly man with congenital adhesion of the prepuce over the posterior portion of the glans; suffering also from balanitis, which rendered the parts extremely sensitive, presented himself for treatment. A four per cent. cocaine solution was applied with a camel's hair brush; three applications being made within ten minutes; at the end of which time the prepuce was dissected off from the glans without causing the patient any pain. Towards the end of the operation a slight sensitiveness showed itself, but was almost instantly annulled by a reapplication of the drug.

Observation 2. The same patient had a stricture of large calibre requiring the passage of a sound. The meatus and mucous membrane just within it were extremely sensitive, as was tested with an instrument.

The cocaine was applied about the orifice and as far within the urethra as it could be carried on a camel's hair brush. Fifteen minutes later a large sound was passed without any uncomfortable sensation, until it reached the deeper portion of the canal.

Observation 3. A young man, with narrow meatus, who was extremely nervous and anxious to take ether rather than suffer any pain, had his meatus slit thoroughly to double its natural size without a sensation, the cocaine having been applied three times in the previous ten minutes.

Observation 4. A small abscess of the scrotum was painted over with a four per cent. solution of cocaine, three times in ten minutes, and at the end of twelve minutes it was incised. This caused considerable pain, although it seemed somewhat less than would have been expected had the cocaine not been applied.

Experiments are as yet wanting to show whether healthy skin is more readily affected than skin infiltrated with inflammatory products, and whether a solution of the drug strong enough to render the horny skin insensible can be safely employed.

It is worthy of note that in the first case reported, the application, when made to the raw surface of the wound, was followed almost instantly by anæsthesia.

Dr. C. H. Williams spoke of a case reported by Dr. Polk as showing clearly the anæsthetic effect of cocaine, for here the operation was prolonged until the effect of the drug began to pass off and pain was felt, but a fresh application of cocaine again produced anæsthesia, and the operation was completed without discomfort.

When applied to any mucous membrane, a decided effect of numbing is obtained, but on the skin no certain results have been got as yet.

Mr. Theodore Metcalf states that the best coca leaves come from Peru. Many are also shipped from Brazil, but the supply of cocaine is likely to be quite limited for some time, as only from one to two grains are obtained from a pound of leaves.

Dr. H. W. Williams reported the successful use of cocaine in two operations for cataract in the forenoon of the day of meeting. Only a single application of two drops of a two per cent. solution was made to each eye. At the end of five minutes the corneæ, which had been previously tested and found to be sensitive, had lost their sensibility, and appeared to have no consciousness when touched. No fixation forceps were used, the patient turning and keeping the eyeballs in the required position. The corneal incisions were made and the cataracts extracted with great facility and without any unsteadiness or any manifestation of pain on the part of the patient.

Dr. F. I. Knight said that he had tried the drug

as a local anæsthetic in operating on two cases of papilloma of the larynx. The preparation used was the only one obtainable at present in this market — a muriate made from the alkaloid by the addition of muriatic acid.

Dr. Knight at first sprayed the larynx with a two per cent. solution without much effect. On a subsequent day he applied the same solution to the larynx with a camel's hair brush. In one case the anæsthetic effect was marked, and the remaining papillomatous tissue removed with ease. In the second case, although the patient spoke of the "numb feeling" in his throat, there was not sufficient diminution of sensation to facilitate the operation. On another day a four per cent. solution was applied to the larynx of this patient with the brush, but with little effect.

The most marked effect on the throat which Dr. Knight had seen was on the pharynx of a phthisical subject, which had been very irritable, as is frequently the case in such patients. The pharynx was brushed over with a two per cent. solution, and almost immediately the patient complained of a queer feeling in her throat, and sensation was so much reduced that he could drum on the pharynx with the laryngeal mirror without exciting the least reflex action, in fact the patient said she did not feel it.

Dr. Knight said he felt confident that in this drug laryngologists would have a great aid in operative procedures, but that we had everything to learn in regard to the strength of the solution to be employed and the best manner to apply it.

DR. E. H. BRADFORD read a paper on

CASES OF LITTLE'S DISEASE,

which is reserved for publication.

DR. J. J. PUTNAM asked if any cases had been acute.

DR. BRADFORD answered that one of his cases was thought by the parents to be acute, but that on cross-examination it seems very questionable. The statement is often made that an attack came on after acute sickness, but on inquiring it is found that the patient did not walk before.

DR. J. J. PUTNAM said that he was unable to throw any light upon the pathology of the interesting disease spoken of by Dr. Bradford. He was inclined to think that the seat of the lesion might vary within certain limits, and yet the outward features of the disease — due, namely, to a spasmodic influence probably brought to bear on all the muscles, but permitting a predominant action on the part of the strongest or most automatic — remain the same.

Perhaps in some cases there is no gross lesion at all.

Dr. Putnam had recently made the post-mortem examination of a boy who had suffered for five years from a bilateral mobile spasm, with impairment of the intelligence, and had been able to detect no lesion whatever with the naked eye.

DR. CABOT mentioned cases in which the adductors acted to make the patients knock-kneed and in which the legs were tied apart in bed for many days, only to return to the old position in a few minutes. In these cases cutting the adductors has enabled the flat-footed patients to walk with a crutch one foot at a time.

DR. BRADFORD remarked that he had not himself seen cases so severe, but he did not see any reason why tenotomy or myotomy should not be done.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

OCTOBER 11, 1884. The President, DR. C. ELLERY STEDMAN, in the chair.

DR. WELLINGTON read

A SUMMARY OF SIX HUNDRED CONSECUTIVE CASES OF MIDWIFERY.[1]

DR. REYNOLDS said that the Society owed its warm thanks to Dr. Wellington for his valuable and interesting report. The very small number of instances in which forceps were needed, once only in thirty-three cases, was worthy of notice; and this especially in connection with the extremely low rate of mortality — half of one per cent. It was instructive to observe a similarly low rate of death in the admirable report of the Dublin Rotunda, just laid before the profession by Dr. Macan. Equally good results with those recorded in Dublin had of late been obtained also in other places.

DR. DRIVER, present by invitation, observed that he used forceps in ten per cent. of his cases; but the number of cases in which he performed version was small, as he believed that as a rule the forceps operation was safer.

DR. REYNOLDS said: In reading the statement, now commonly made, of the very frequent employment of forceps, one cannot help wondering whether this instrument is not often used merely that one may promptly end a tiresome and difficult process. "Delay" in labor, as justification for operative interference, should bear a precise and definite meaning. Mere slowness, the general condition of mother and child remaining excellent, and steady progress, however moderate, being made, is not in this sense "delay." In this relation, the unwarrantable prescription of anæsthesia, which is becoming the habit of not a few accoucheurs in this vicinity, is to be greatly regretted; for hydrate of chloral, an excellent resource during the period of dilatation, is of no value in the expulsive stage. This abandonment of ether is excused, by asserting that anæsthesia delays the progress of labor, and farther that it must, if it lessens suffering, diminish at the same time uterine contraction and so prepare the way for flooding. Now it is as clear a canon in trying to relieve the suffering of childbirth as it is in treating intestinal colic, that the use of every remedy, opium, chloral, or anæsthetics, is conditioned utterly upon the presence of pain, upon its severity and its persistence. If there be but little pain, resort to any one of them is wholly unjustifiable. If under the employment of either of them the process of labor is arrested, the indication for continuing the agent ceases. It is true that in a small minority of cases ether suspends uterine action and must be withdrawn; but these instances, few in number, are more than offset by that other minority, not infrequently women of powerful frame and strong muscular development, who, broken down by intense suffering and wholly unmanageable, are yet able, when under moderate anæsthesia, to give invaluable aid.

In reply to questions the speaker admitted that he frequently saw fit to make the administration of ether for a time nominal, that he might test the value of voluntary efforts; but said that he believed that he had not for a long time been obliged in any case to for-

[1] See page 509 of this number of the JOURNAL.

mally relinquish anæsthesia on the ground under consideration. It is to be understood that in these remarks reference is had exclusively to what may be called the judicious employment of ether in average cases: and by this is intended such an exhibition of it as will lessen suffering without arresting the progress of labor; withholding it wholly the moment that pain subsides; never abolishing consciousness, and seldom taking away the power of intelligible speech. In thus using it the mere duration of labor is no doubt in most cases increased; but by what right does an attendant grudge for this purpose an added hour or half hour, provided the patient, who has little or no knowledge of time, is in great measure freed by his treatment from that risk of exhaustion which comes from the continued endurance of suffering. Obstetricians cannot be too strongly warned that the risk of hæmorrhage in childbirth, following loss of uterine contraction, is due wholly, utterly, exclusively, to loss of nervous power; that to bring about such exhaustion prolonged endurance of pain is the one all-powerful factor, as the wise palliation of agony is the best of all expedients for preventing the danger.

In operative obstetrics deep surgical anæsthesia is often of priceless value. Thus used, this remedy has been of incalculable worth in saving life. Nay more, its employment bids fair to revolutionize the practice of difficult obstetrics. Etherization carried to this extent will of course bring subsequent risk: the effect of the remedy must then be carefully watched and every precaution observed. Yet here also the good that is achieved far outweighs the added danger. Patients worn out in advance by mental worry or by bodily fatigue and those exhausted by repeated and continuous childbearing bring indeed to labor conditions that after delivery favor uterine relaxation; but even in these cases, provided severe suffering be present, the hope of escape from peril is probably not lessened, but rather increased, by the judicious employment of ether. The criticism upon it is as unreasoning as that which forbids us to administer hypnotics and opiates in the delirium of typhoid, on the ground that opiates arrest the secretions and diminish appetite. What suitable opiate will ever equal the exhaustion of sleepless delirium in producing these very results? "I am sure," an eminent practitioner lately said, "that I saved two valuable lives by adding under those conditions to chloral, bromide, and opiates the inhalation of ether, without which last I could give no relief." Few obstetricians in the United States can base their judgments upon a clinical experience more extended than that of Dr. Fordyce Barker: other observers are encouraged to express their strong convictions by his outspoken declaration of last year, that while he rarely, if ever, conducts a labor of any importance without an anæsthetic, he could not recall during many years a patient under his care, in whose case there had been post-partum hæmorrhage. It is a satisfaction to put once more these expressions of opinion before this Society. Would that the words could be made more emphatic! No man has a right to habitually withhold in his lying-in hospital this inestimable form of relief, or in the case of private patients to insinuate the alleged peril of its use, unless he can show clear and unmistakable evidence that such danger exists; and the burden of proof should lie wholly on his side.

DR. RICHARDSON did not favor the use of ether in childbirth for two reasons: in the first place he thought that ether caused a diminution in the force and frequency of the pains, whereby the labor was prolonged and the child's life occasionally endangered; in the second place he was persuaded that the uterus did not contract so well post partum when ether had been given and that therefore there was more danger of hæmorrhage. He had seen in hospital practice several instances of post-partum hæmorrhage which he was led to ascribe to the ether which the patient had taken: he had never seen post-partum hæmorrhage in private practice. In the first stage of labor he used chloral hydrate to prevent unnecessary suffering; but in the second stage he believed in the timely use of forceps, both to save time and to prevent suffering. He never waited until the fœtal pulse began to flag or intermit; but when with a fully dilated os the labor did not make constant progress, he seldom waited more than two or three hours before completing the delivery with forceps. In private practice one is frequently called upon to use ether, and in such cases he would never hesitate to use it, but should always feel a certain amount of uneasiness with reference to both mother and child.

DR. SINCLAIR said that for twenty years it had been his firm belief that the use of ether not only predisposes the patient to post-partum hæmorrhage but prolongs the labor: he therefore very seldom used ether in private practice except at the close of the labor and in instrumental deliveries. He was in favor of the early use of forceps, especially when a flagging fœtal pulse indicated that the child's life was in danger.

DR. BOARDMAN said that of late years he had given ether in private practice, and thought it promoted the labor and relieved suffering. He used it only in the second stage and gave it sparingly. He had never seen post partum hæmorrhage either in hospital or private practice which could be attributed to the use of ether.

DR. ABBOT said that after such a protracted discussion he would merely mention a case in his own practice which he thought well illustrated the evil of too free administration of an anæsthetic in labor as well as delay in the use of forceps. The case occurred years ago, at the time when the use of ether in childbirth was a novelty. A lady engaged him to attend her in her first confinement on the express condition that he should give her ether, and as freely as she wanted it. At the time little was known about the judicious use of this agent in labor. According to agreement she was allowed to inhale it very freely. As time passed its use was somewhat suspended, as it seemed to check the progress of the child. It did not, however, restrain the efforts of the patient in expulsion, for these were so great as to cause extensive emphysema of the cellular tissue, which extended from the eyes down to the breasts, probably from a rupture at the bifurcation of the trachea. The labor progressed slowly, at the end of thirty hours the head being partly through the superior strait. At this time, the child being alive, it seemed advisable to apply forceps. At the period when the case occurred this instrument was an obstetrical bugbear. Students were warned not to use it, except in great extremity. An eminent obstetrician was called in consultation, who, after due consideration of the situation, advised longer delay, as the patient was in a fair condition and pains were still active. Yielding to the authority of age and experience the patient was allowed to go unaided for twenty-four hours longer, the child making slow progress. At the

end of that period, the head being pretty low down, forceps were applied by the gentleman who had been called in the day before, with the result of a not difficult delivery of a dead child, very large, probably weighing twelve pounds. Dr. Abbot had no doubt that the free use of ether in this case had greatly retarded the labor, and that the delay in the use of forceps was responsible for the death of the child. This with subsequent experience had taught him the wisdom of a judicious use of anæsthetics in labor, as well as the great value and harmlessness of a timely use of forceps. The emphysema occurred during the last stages of labor, and the amount of ether inhaled was probably over two quarts. The emphysema disappeared by the end of a week, and the patient made an uninterrupted convalescence.

DR. WELLINGTON said, in reply to a question, that he did not believe it was safe to attend lying-in women coincidently with cases of scarlatina and erysipelas.

DR. INGALLS stated that in 1860 he had the professional care of about one hundred and thirty cases of scarlatina during an epidemic which lasted a period of seven months: this was in Winchester. There were all grades of the disease. Obstetrical and any other practice that offered he attended to as at any other time: careful review of the history of the epidemic soon after its close and many times since permits the assurance of his not having been the medium of communicating the disease.

PHILADELPHIA CLINICAL SOCIETY.

G. BELTON MASSEY, M. D., RECORDING SECRETARY.

MEETING of October 24, 1884. DR. BEATES in the chair.

EXTRA-UTERINE PREGNANCY.

DR. MONTGOMERY reported A Case of Extra-Uterine Pregnancy, Rupture, Peritonitis, Recovery.[1]

Also, for DR. JAMES SIBBALD, A Case of Extra-Uterine Pregnancy Successfully Treated by Electricity.[2]

DR. JOHN B. ROBERTS coincided with Dr. Montgomery as to the advisability of performing laparotomy where the symptoms of rupture continued urgent,

DR. CLARA BARTON asked what form of electricity had been used.

DR. G. BELTON MASSEY: The question put by Dr. Barton is of no little importance, and the answer should depend on a clear conception of the work to be done in a given case. Electricity is called upon for two separate and distinct functions in extra-uterine pregnancy: to kill the fœtus and to produce its absorption. In the former case a somatic death of the germ contained in the tumor is desired; in the latter merely a molecular death or change. In this latter instance, where the death of the fœtus has occurred, and we merely wish to promote its absorption, together with any effused blood or other material, the indications are almost exactly similar to those of any other intra-abdominal tumor, the current with greatest electrolytic power — the galvanic — is to be preferred. On the other hand, if we wish to arrest the onward progress of life in the fœtal mass in the interest of the unfortunate mother, that current which will accomplish this object with least danger to the mother is to be preferred. This is undoubtedly the faradic current. Shock must be the quality of value here. It is simply a question of transmitting a sufficiency of shock through the abdominal walls of the mother to the more vital parts of the fœtus. If the ordinary faradic battery is not strong enough the gravity of these sad cases would even warrant the building of a weak dynamo for this special purpose. As to method of application: the external percutaneous passage of the current by moistened electrodes would seem to be the best. A vaginal electrode might be used, however, the principal endeavor being to send the current directly through the tumor. Drs. Thomas and Mundé have recently reported a number of cases to the American Gynecological Society where successful results had followed the use of electricity. To my mind, however, their remarks as reported lacked definiteness in this matter of the choice of current, and the exact object desired in the individual case. Dr. Thomas does not advise the use of electricity after the fifth month, but an operation instead. Possibly he anticipated difficulty in then producing death, but this could be overcome by increasing the strength of current in the manner I have indicated; even if an operation was afterwards performed the previous arrest of the placental circulation might be of value.

In response to inquiries from Drs. Hall and Roberts, Dr. Massey said that an insulated sound with free extremity would form an excellent vaginal electrode, but that the use of acupuncture needles was totally unnecessary.

DR. MONTGOMERY, in closing the discussion, said that he had applied one electrode in the vagina in contact with the uterus and the other over the hypogastrium. He thought acupuncture unnecessary, though it was formerly the practice to use this procedure, as it was liable to cause peritonitis from the liquor amnii escaping into the peritoneal cavity. There is but little difference in the use of either current. There were two reasons why electricity was unavailable after four and a half or five months. The liability to rupture was greatest in the early months, — before the third month. After that we may as well allow the case to go on to a later month, as an operation will be necessary any way. A large fœtus is more dangerous to the mother after loss of vitality, and cannot be allowed to remain. Although the woman had fallen in the case related he thought the fœtus was still living, and therefore advised the electricity with the direct purpose to kill. Subsequently the tumor became smaller. The fœtus and appendages become encapsulated in the abdominal cavities of the mothers in these cases. There is no advantage in destroying the fœtus prior to operation.

[1] See page 510 of this number of the JOURNAL.
[2] See page 511 of this number of the JOURNAL.

— The proceeds, amounting to $22,000, of a fête held at the International Health Exhibition, were distributed October 10th among the hospitals and dispensaries of London.

— The City Council of Philadelphia have been soliciting medical opinions regarding the effect on public health of salting the tracks. They have got views of diametrically opposite character, and will have to decide for themselves.

FIRST ANNUAL MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Held at the Murray Hill Hotel, New York, November 18, 19, and 20.

First Day — Morning Session.

The report of the Committee of Arrangements was made by Dr. J. W. S. Gouley, Chairman; after which was delivered the

ADDRESS BY THE PRESIDENT,

Henry D. Didama, of Syracuse. In it he warmly advocated the three years' graded course of medical education, and strongly urged that it should be adopted in the large schools in New York as a worthy example to be followed by the others throughout the State.

THE ADDRESS IN SURGERY

was given by Dr. E. M. Moore, of Rochester, who took Transfusion for his subject. He preferred natural blood to defibrinated blood, milk, or saline solutions, and had devised a simple apparatus by which the blood could be conveyed to the veins of the patient without danger of injecting air or having the blood coagulate, which he considered the great points to be avoided. It consisted of a narrow rubber sac, into which the blood of the donor was to be received, to the lower end of which was attached a canula and mandrel, by means of which the stream flowing into the patient's vein could be instantly arrested whenever desired. He believed that a transfusion should never occupy more than one minute at the outside, and that two ounces, or less, of blood was quite sufficient for most cases. In case a larger quantity seemed necessary, the operation was to be repeated without withdrawing the canula.

Congratulatory addresses were made by Dr. Wm. Detmold, President of the New York County Medical Association, Dr. Shoemaker, of the Pennsylvania State Medical Society, Dr. Clark, of the Vermont Medical Society, and Dr. Wylie, of the Connecticut Medical Society.

Dr. Gouley, Chairman, read the

REPORT OF THE COMMITTEE ON ORGANIZATION OF DISTRICT ASSOCIATIONS,

proposing a plan for five such branch associations in the various sections of the State, which should each hold one stated meeting each year, and the president of each of which should be the vice-president residing in that district. The plan was unanimously adopted, and a recess was then taken for the organization of the district associations.

Afternoon Session.

Dr. J. C. Hutchinson, of Brooklyn, read a paper on

TRANSFUSION,

in which he described an apparatus devised by himself, the principal feature of which was a graduated glass cylinder provided with a thermometer, and surrounded by a double rubber sac filled with hot water for maintaining the temperature at the required point. Into the bottom of the cylinder was secured a rubber tube, to the lower end of which was attached a canula, provided with a stopcock, to be inserted into the median basilic vein of the patient. The fluid he used was a saline solution, and he thought that from twelve to twenty ounces was required, which should not be allowed to flow at a faster rate than one ounce per minute. He believed that the benefit to be derived from transfusion was not so much of a nutritive character as the restoration of vital fluid to the circulation and the stimulation of the heart.

Dr. Alfred L. Carroll, of New Brighton, Staten Island, read a paper on the

DURATION OF CONTAGIOUSNESS AFTER ACUTE INFECTIOUS DISEASES.

This was a question which had never been definitely settled; but was one of great practical importance, especially as regards the time that children should be kept from school after recovering from such diseases. With a view to obtaining light on the subject he had addressed inquiries to a number of prominent medical teachers and practitioners throughout the State; but for the most part had found a very wide variance in their replies, and he trusted that the Fellows of the Association would endeavor to aid him in the further prosecution of the matter by communicating to him the results of their own experience.

Papers were then read by Dr. John S. Jamison, of Steuben County, on Chronic Intestinal Catarrh, and by Dr. E. R. Squibb, of King's County, on

THE MODERN PROGRESS OF MATERIA MEDICA.

Dr. Squibb thought that polypharmacy was much less in vogue now than formerly; fewer and more active agents, the power and definite action of which were known, being employed. The more concentrated forms of drugs, like fluid extracts, were used in preference to tinctures and syrups, and they were prescribed not in the fixed doses set down in the books, but according to the physiological and therapeutic effects noticed in each special case.

Dr. W. H. Robb, of Montgomery County, read a paper on

THE MANAGEMENT OF CRIMINAL ABORTION.

In the discussion which followed Dr. Ely Van de Warker said that he regarded the use of ergot for the relief of hæmorrhage in abortion at or before the third month as a waste of time, and that irregular contractions were often excited by it; an opinion which was concurred in by Dr. Moses H. White, of New Haven, who thought it not only useless, but harmful, at this period, as it not infrequently caused the retention of the ovum by the abnormal contraction of the organ which it excited.

Dr. Charles Buckley, of Monroe County, read a paper on

CHRONIC MERCURIAL POISONING.

In a case under his care very serious symptoms resembling those of arsenical poisoning were found to be due to mercury used in coloring the hard, red rubber plate of a set of false teeth worn by the patient. He had since also noted several other similar cases, though less severe in character.

Dr. R. H. Sabin, of Albany County, read a paper on

A CASE OF ACUTE LEAD POISONING RESULTING FATALLY.

The patient, apparently in good health, suddenly became unconscious and remained in this condition for thirty-two hours, when death ensued. No autopsy was permitted; but the immediate cause of death was supposed to be cerebral effusion. Other men occupied in the same work as the patient suffered from the ordinary symptoms of lead poisoning.

The following papers were read by title: The Therapeutics of Diphtheria, by Dr. J. W. Moore, of Albany County; Notes on Dislocation of the Hip, based upon 238 Cases Occurring in the State of New York, by Dr. Frederick Hyde, of Cortland County; and Intestinal Obstruction, by Dr. Avery Segur.

NIGHT SESSION.

DR. H. E. MITCHELL, of Rensselaer County, read a paper on

ERRORS OF REFRACTION: THE IMPORTANCE OF THEIR RECOGNITION AND CORRECTION IN EARLY LIFE.

On account of the rapidly increasing number of defective eyes in children he thought general practitioners should be on their guard, and do what they could to put a stop to it. By means of an ordinary set of test types and the optometer, a simple variety of which he exhibited, such difficulties could be readily detected.

DR. AUSTIN FLINT, of New York, read a paper on the

DIETETIC MANAGEMENT OF DYSPEPSIA.

In what he said he wished it to be understood that he regarded indigestion and dyspepsia as distinct affections. As a rule, the diet which was beneficial to the healthy individual was beneficial to the dyspeptic, and the guides for eating should be the appetite, the palate, and common sense. Dietetic idiosyncrasies were by no means as frequently met with as was generally supposed to be the case, and the old adage that what was one man's food was another man's poison had little truth in it. It was of prime importance that the dyspeptic should be disabused of the notion that he should observe strict rules in regard to the quantity, quality, and variety of his food, as well as to the time of eating; and nothing was so well adapted to prolong digestive trouble as the habit of introspection indulged in by so many dyspeptics.

DR. N. C. LYNDE read a paper on

DOUBLE SYNCHRONOUS AMPUTATIONS.

It was accompanied by a table which he had made from reports received from surgeons throughout the State. The cases were nearly one hundred in number, and nineteen twentieths of them were due to railroad injuries. In amputations of the upper extremities nearly all recovered, while in those of the lower extremities (thirty-four in number) half recovered. He urged immediate operation, as a rule.

Dr. Lynde also read a paper on

THE FUNCTIONS OF THE AURICLES,

in which he took the ground that the auricles acted merely as reservoirs and diverticula for the blood poured into the heart, and did not contract, as claimed in the books.

This opinion was vigorously opposed by Drs. Austin Flint, Jr. Austin Flint, Sr., Moore, and Ross. The latter stated that at the last meeting of the New York State Medical Society he had reported a case of rupture of the auricle, which he thought could not possibly have occurred except in the act of contraction.

DR. E. D. FERGUSON, of Rensselaer County, read a paper on

THE USE OF THE ASPIRATOR IN HYDROTHORAX,

in which he said that owing to the dangerous and even fatal results which he had seen produced by the aspirator by causing pyothorax, he now never resorted to it except when dyspnœa or other serious symptoms supervened. Dr. Bowdich had maintained that the aspiration should be continued until the patient complained of pain in the epigastrium or dyspnœa; but he thought that it was much better that it should be stopped before this point was reached, as the occurrence of these signs indicated a more or less grave condition already, and he would advise that more than a pint of fluid at the outside should never be withdrawn at one time. In the pelvic cavity much evil had resulted also from the too free use of the aspirator, and on the whole he thought that the instrument had perhaps been productive of more harm than good.

DR. THOMAS F. ROCHESTER, of Erie County, read a paper on

A NEW PROCEDURE IN PARACENTESIS THORACIS.

This was the introduction of the finger through the opening, and the separation with it of the ribs, when the latter were so close together that it was impossible to insert a drainage-tube. He had practiced it in three cases with marked success.

In the discussion of these two papers which followed, DR. FLINT said that there was no doubt a great deal of truth in what had been said, but he was hardly willing to go so far as the author of the paper, and DR. MOORE said he was disposed to agree with Dr. Ferguson in regard to the use of the aspirator in acute pleuritis, but that in empyema it was vastly safer and better than opening the pleural cavity; while DR. ROCHESTER, who said he had probably performed paracentesis thoracis oftener than any one in the country except Dr. Bowditch, thought that it was a waste of time to employ aspiration in empyema, and that the use of the drainage-tube was the only satisfactory method of treating it. DR. FIFIELD, of Boston, remarked that ten years ago Dieulafoy had insisted that only a certain quantity of fluid, not to be exceeded, was to be withdrawn, and that he believed Dr. Bowditch had some time ago resorted to the procedure described in Dr. Rochester's paper. With his last instrument Dieulafoy had provided a set of canulæ which could be left in situ in the chest walls, and such a contrivance he thought was better than the drainage-tube.

The following papers were read by title: Pyæmia and Death after the Operation for Convergent Squint, by Dr. J. J. A. Burke, of Monroe County; Relations of Habit to Disease, by Dr. C. M. Kittredge, of Dutchess County; Report of a Case of Nephro-Lithotomy for Calculous Pyelitis, by Dr. Wm. Watkyns Seymour, of Rensselaer County; and Report of a Case of Excision of the Rectum for Cancer, also by Dr. Seymour.

SECOND DAY. MORNING SESSION.

PROPOSED LIBRARY.

On motion of DR. GOULEY, resolutions were passed

providing for the establishment of a library for the Association in the city of New York and for a library fund.

DR. S. C. ALLEN read a paper on

A CASE OF DIARRHŒA FROM DISEASE OF THE PANCREAS.

The patient had for some time what Dr. Allen called "adipose diarrhœa," but greatly improved under treatment. He had also granular disease of the kidney, however, as indicated by the condition of the urine, and finally died of uræmia combined with senile debility.

THE ADDRESS ON OBSTETRICS AND GYNÆCOLOGY

was delivered by DR. T. GAILLARD THOMAS, of New York. In it he spoke of the great advance in the prevention and treatment of puerperal septicæmia which the obstetrician had been enabled to make through the discovery of the bacterial origin of disease, of the treatment of extra-uterine pregnancy by electricity and laparotomy, of the induction of premature labor in placenta previa and aggravated nephritis, of the usefulness of Tarnier's tractors (which he regarded as the only real improvement in the forceps since the days of Smellie and Levret), of the advantages of laparo-elytrotomy, and of Emmet's, Battey's, Hegar's, and Tait's operations, and of the drugs recently introduced into this department of practice, such as permanganate of potash, and the fluid extracts of ergot of corn, viscum album, and viburnum.

DR. DARWIN COLVIN, of Wayne County, read a paper on

VENESECTION IN THE CONVULSIONS OF PREGNANT AND PARTURIENT WOMEN,

in which he claimed from a large experience that this was better than any other treatment; citing instances in which he believed death would inevitably have resulted had not free bleeding been resorted to.

In the discussion which followed DR. MOORE said that he believed that bleeding was of service in suspending the convulsions until the cathartics, which were always given in connection with it, had time to act, and that it was the cathartics that really cured the patient by eliminating from the system the poison which gave rise to the convulsions. Anything that would temporarily suspend these, therefore, would be useful, and he thought that ether was better for this purpose than bleeding, chloroform, morphia, or any other agent. Its inhalation was to be freely and steadily kept up until either the uterus was emptied or the bowels well moved by a purgative.

DR. THAYER, of Brooklyn, said that Norwood's tincture of *veratrum viride*, in doses of a teaspoonful, would also fulfill very admirably the indication referred to by Dr. Moore.

DR. C. C. F. GAY, of Erie County, read a paper on

FRACTURE OF THE BASE OF THE ACETABULUM.

Uncomplicated cases always got well without any treatment except rest, and as the positive diagnosis was always difficult, if not impossible, he wished to warn the profession against the danger of too much manipulation. He presented a specimen of fracture in three directions and involving the *os innominatum*, and read a history of the case.

TUBAL PREGNANCY.

DR. J. G. ORTON, of Broome County, read a paper on A Case of Tubal Pregnancy, at Full Term, of Fourteen Years' Standing.

Nearly one hundred bones of the fœtus had been removed through an opening which appeared spontaneously in the rectum, about four inches above the anus, when the patient died from an attack of diarrhœa, which was epidemic at the time in the town where she resided. The bones and sac were exhibited.

DR. NATHAN BOZEMAN, of New York, read a paper on a Case of Tubal Pregnancy, considered in Relation to Rupture of the Tube; Diagnosis and Treatment.

Dr. Bozeman performed laparotomy in this case; but as it was not until more than a week after the rupture of the cyst (the physician in attendance having mistaken the diagnosis), the patient died thirty-three hours afterwards from exhaustion. He urged the use of electricity to destroy the fœtus before the rupture of the cyst, and, in the event of a rupture, the immediate resort to laparotomy to arrest the hæmorrhage in the abdominal cavity.

The following papers were read by title: The Practice of Medicine of Forty Years Ago with Comparative Position at Present, by Dr. B. L. Hovey, of Monroe County; Notes on Peat as a Surgical Dressing, by Dr. W. S. Tremaine, of Erie County; and A Case of Ovarian Cyst, with Operation, by Dr. T. M. Lloyd, of Kings County.

DR. C. S. BULL read a paper on

HYDROCHLORATE OF COCAINE IN OPHTHALMIC SURGERY.

He had used it with success in a large number of operations, and spoke successively of its effects upon the sensory nerves of the cornea and conjunctiva, upon the pupil, and upon accommodation. He considered it a great boon to the ophthalmic surgeon in relieving him from the thraldom of ether and chloroform.

DR. MITCHELL said that he had been equally pleased with the results obtained from its use, though for a considerable time past he had found bromide of ethyl an excellent substitute for ether and chloroform. It was much more prompt in its action, and he believed that for short operations at least it was perfectly safe.

NIGHT SESSION.

The following papers were read by title: Common Sense Versus Hypothetical Medication in Treating Chronic Diseases, by Dr. Jonathan Kneeland, of Onondaga County; Cerebral Epilepsy, by Dr. C. F. Macdonald, of Cayuga County.

DR. FREDERICK W. PUTNAM, of Broome County, read a paper on a Case of Dislocation of the First Phalanx of the Thumb Forwards. The author of the paper had been able to find but four cases of this dislocation on record.

(To be concluded.)

— Sir Spencer Wells has been urging the claims of cremation in England, where, among its active supporters, are to be counted the Earl of Shaftesbury, Sir Henry Thompson, Mr. Ernest Hart, several of the Bishops of the Established Church, and the City of London Commission of Sewers.

Medical and Surgical Journal.

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THE WISDOM AND CONSTITUTIONALITY OF STATE REGULATION OF THE PRACTICE OF MEDICINE.

ANY movement in a democratic country like our own, having for its object a State regulation of the practice of medicine, is generally met and opposed by a cry of interference with individual rights, class legislation, and other well-known demagogical formulæ. When, moreover, such a movement is supported by qualified medical practitioners, who best know the evils which prevail in the absence of restrictions upon medical practice, a suspicion immediately presents itself to the minds of a certain portion of their fellow-citizens — a suspicion which is sedulously cultivated by the quacks and pretenders — that a monopoly is being created, and that such men, however respectable in their daily walk of life, are seeking their own advantage rather than that of the public.

This being the case, as we have on several occasions had reason to assure ourselves, it was with particular pleasure that our attention was drawn to a very clear and cogent statement of the constitutionality and desirability of the regulation of medical practice by State Legislatures, emanating lately from a member of the legal profession, a judge of the Court of Appeals of West Virginia.

The Legislature of West Virginia passed a law in 1882, similar to that existing in Illinois, to regulate the practice of medicine. The execution of the law, as in Illinois, was intrusted to the State Board of Health, which, like the State Board of Illinois, seems to perform its duties under the law in an active, efficient, and discreet manner. The law provides, in brief, that all persons desiring to practice medicine in the State shall present themselves before the Board for examination and a license, except such as had practiced in the State continuously for ten years prior to the passage of the law, or such as are graduates of a "reputable" medical college in the school of medicine which they profess, who may, upon presenting their diplomas and satisfying the Board, also obtain a license. Under this law the Board brought an action two years ago against a quack and obtained judgment. The defendant did not take exception to the allegations proved against him, but appealed on the ground of the unconstitutionality of the law. Judge Green, who presided, with his colleagues, at the second trial, affirmed the constitutionality of the law in an opinion which covers at some length and with much clearness, as we have said, both the merits and the soundness of such legislation.

Whilst there can be no doubt, as his Honor thinks, that the Legislature of every State should permit the utmost freedom of action by each citizen consistent with the public welfare, and ought not by law to impose any restraint thereon which the paramount claims of the community do not demand, it, of course, does not follow that the Legislature cannot legitimately restrain the action or conduct of any individual or citizen by a general law applicable alike to all, when such restraint is imposed for the purpose of promoting the comfort, the health, or the prosperity of the community at large. Under these circumstances the Legislature of any of the States has a perfect right under its general police power to pass laws placing individuals under restraint in the exercise of any business, calling, or profession. This power has been constantly exercised by State Legislatures, and the courts have universally recognized such power and have held that acts of the State Legislatures passed in the exercise of this power were constitutional and valid. In a great variety of cases State Legislatures have required licenses to be granted before a citizen could engage in a certain business or in certain professions, when from the character of the business or profession the public was liable to be imposed upon, unless the individual citizen was placed under this and other restraints imposed on all alike who engaged in such business or profession. Thus, laws have been passed to license bakers and to regulate both the weight and price of bread, and to prohibit the baking of bread for sale by those not licensed. And such acts of the Legislature have been held valid and constitutional. In no State in the Union is a citizen permitted to engage in the selling of intoxicating liquors without being placed under restraint by legislative acts. These restraints vary much in different States, and in very many of them the person desiring to engage in such business has first to obtain a license from a specified body or person, and before obtaining such license has to establish his fitness to engage in such business by proving his moral character. The general right of the Legislature by statute to regulate the sale of intoxicating liquors, and to place persons engaged in this business under whatever restraint the Legislature deems necessary to protect the community from injury, either to its morals or health, by those engaged in this business, is universally recognized by the courts, and is so well understood that no decision need be referred to as recognizing this species of legislation as valid.

Other sorts of business have also been put under restraint and regulation, the general rule being that the Legislature may restrain any one in the exercise of his natural rights to engage in any business whenever the promotion of the public safety, health, or prosperity requires a restraint of any particular sort to be put upon any particular business. The principle involved in this regulation by law of various sorts of business has been also extended to various callings and professions. Thus the practice of law is a profession

which the Legislature of every State has deemed one which should be regulated by law, and those engaged in this profession put under restraints for the protection of the general public. The person proposing to practice law is everywhere required to obtain a license from some person or persons qualified to determine whether the applicant has the qualifications necessary to practice law. The constitutionality of such laws or even their propriety has never been questioned.

The authority of the Legislature to require any one engaging in the practice of law to obtain a license is recognized as a matter of course. Statutes requiring that any person who undertakes to practice law must first be examined by judges competent to determine whether he has the requisite qualifications are based upon the well-known fact that none but those who have been specially educated with reference to practicing law can do so without great injury to the community who must employ lawyers in their business, and who are necessarily incompetent, to a considerable extent, to judge of the qualifications of a lawyer, and are thus subject to be imposed upon by pretenders ignorant of their profession. To furnish the community some protection against such impostors the statute law in perhaps every State in the Union prohibits any one from practicing law till he has first been examined by a competent judge or by a competent body of men, and a certificate of his qualifications and a permission to practice law has been obtained. The same reasons would seem to equally require that no one should be allowed to practice medicine who has not been first examined by some competent person, or body of men, as to his qualification to practice medicine, and obtained permission to do so, for it is obvious that the doctor equally with the lawyer requires a special education to qualify him to practice, and that the community in the case of the doctor, at least as much as in the case of the lawyer, are incompetent to judge of his qualifications, and are liable to be imposed upon by impostors and quacks professing to practice medicine. Indeed, the liability to imposition on the community through quack doctors would, Judge Green thinks, be even greater than their liability to be imposed upon by pretenders in the practice of law, yet the Legislatures of many States have singularly neglected to protect the community against imposition on them by quack doctors, but have left the community to only such protection against them as was furnished by the common law, and by it physicians undertaking to practice their profession were held responsible not only for due care and diligence, but for that degree of skill and capacity which ordinarily belongs to those who practice medicine. But, as in the case of lawyers, many of our State Legislatures have by statute law afforded additional protection to the community against the humbuggery of quack doctors.

It was claimed by the defendant that the law regulating the practice of medicine in West Virginia violated an article of the State Constitution, which provides that "all men are by nature equally free and independent, and have certain inherent rights, of which, when they enter into a state of society, they cannot by any compact deprive or divest their posterity, namely, the enjoyment of life and liberty with the means of acquiring and possessing property, and of pursuing and obtaining happiness and safety." This claim was disposed of quite summarily, the judge expressing himself as follows: "Of course all men have a right to the means of acquiring property, but the means used must be lawful means. An individual cannot acquire property by stealth or robbery. In so doing he infringes on the rights of others, on their right under this very provision of our bill of rights to possess property. So he cannot have a right to acquire property by the practice of medicine if he has no qualifications to practice medicine, and if in his attempt to do so he destroys the health of others in violation of the law of the land. And therefore the Legislature has a right by law to declare that he shall not acquire property by the practice of medicine unless he possesses the requisite qualifications, and there can be thus given some assurance to the community that he will not destroy the health of others. For how can others enjoy their life as provided for by this section of our bill of rights if any quack has an absolute right to destroy life by his attempt to practice medicine. The Legislature, therefore, in declaring what shall be the qualifications of a person before he shall acquire property by practicing medicine does not violate this provision of our bill of rights."

We do not reproduce these portions of the arguments advanced and the opinions expressed in this decision because they will be new to our readers, but because they come from a non-medical source, and are couched in plain words suitable for plain people. Those of our colleagues who have long been convinced of their truth themselves may some time find them useful in their efforts to convince others. We are glad to congratulate the State Board of Health of West Virginia upon the sturdy support which it receives in the discharge of beneficent but disagreeable duties.

DR. CLEVENGER ON POLITICAL ABUSE OF THE INSANE.

AT a recent meeting of the Chicago Medical Society Dr. S. V. Clevenger, special pathologist to the Cook County Asylum, a few miles from Chicago, read a paper on the Political Abuse of the Insane. Stating that the European governments subsidize laboratories and salary eminent physicians, he contrasted with this fact the condition of things existing in the average American asylum, more especially those controlled by local trustees instead of by legislatures. There is, he continued, a wonderful uniformity in the degradation of American institutions for the insane; the same brutalities are rife in them; the employees are generally of the same class; the same intriguing, bickering, and general roguery occur, and all of the so-called physicians are nearly of the same stripe; the same air of secrecy is maintained in one as in the others. While he admitted that a majority of asylum

attendants were kind hearted, the pernicious influence of the brutes was too prominent to be overlooked. These brutes were mostly active workers in political campaigns, who felt entitled to the political spoils. The average official who appoints such men is often of the same stripe. When $200,000 or $300,000 are yearly appopriated for the maintenance of an asylum the chances for division are excellent, because the inmates do not know enough to complain, and any officer who is not corrupt is usually intimidated into silence. If he cannot be entangled in some scandal or some hold cannot be secured on him the gang often concocts a scheme out of whole cloth and uniformly swears to it. It is pure accident if a good physician succeeds in effecting an entrance to an asylum as an appointee. The charlatan who abides in saloons and is well acquainted with the "boss" or members of the gang stands the best chance for election to office. Such a person is usually of the bummer order, who delights in pistol shooting and threatenings, who prostitutes his position in all sorts of ways for the benefit of bad politicians, — this he said and more.

We have quoted these remarks at length because we believe the author to be entirely misinformed with regard to the "average American asylum." We wish also to protest against such misrepresentation. With such statements upon record we cannot wonder that there has been so much unfair criticism of our institutions in Europe, and that most English alienists come over here to be agreeably surprised at the superiority of our asylums, in many respects excelling their own. Our distinguished colleague Dr. Tuke is the latest to bear witness to the admirable character of all of our insane asylums [1] which he had seen.

In speaking of the Cook County Asylum, Dr. Clevenger says of the newly-appointed reform medical superintendent, Dr. J. G. Kiernan, that his first order to the attendants was to restrain no patient without an order from a physician. A great uproar followed. This was an unheard-of proceeding there, and much nonsense was talked over the new order. The next order was that the night watch should not issue medicines to the patients at their own will, but were to call up a physician. As much as ten gallons of sleeping potions were doled out per month in the most unskillful manner to all classes of noisy patients. Any death resulting from this was of course attributed to "exhaustion from insanity." Among the new arrangements which disgusted the gang most of all was that requiring employees to take off their hats in the wards and address the patients in a decent manner. . . . The patients are insufficiently fed and scantily clothed. They suffer for everything. The medicines are impure and often valueless, and upon investigation, without whitewash in it, many terrible things may be brought to light.

If Dr. Clevenger has generalized from this one asylum we can readily believe that he had good grounds for his severe criticisms. But having had a pretty large experience in inspecting American insane asylums, and far from wishing to extenuate their faults, we must say that the Cook County Asylum is unique for its bad management, so far as our knowledge goes. Nearly ten years ago we called the attention of the Chicago physicians to some gross abuses [2] in the treatment of the patients there, and they (the Chicago Medical Society, if we remember correctly) promptly had them corrected. The Chicago Citizens' Association has requested the Chicago Medical Society to appoint a number of physicians to act in conjunction with laymen of the Association in investigating the charges of mismanagement at the County Insane Asylum. Drs. C. G. Smith, E. Ingalls, C. G. Paoli, R. Tilley, and C. W. Earl were appointed by the chairman, the Citizens' Association to select three names of the five presented.

We have always been opposed to insane asylums governed by local authorities, of which there are not very many in this country, believing that all such institutions should be under State direction, and we regret exceedingly the action of our last Massachusetts Legislature in going back to them.

[1] We exclude, as we suppose Dr. Clevenger does, the British asylums of Canada.

QUARANTINE AS A SIEVE.

THE discovery of a man dying from yellow fever in a boarding-house on Spring Street, in New York, November 19th, is a sufficiently good illustration of the value of quarantine in *excluding* disease from a country. The sick man had been steward of a vessel which arrived the day before from Costa Rica. The vessel passed quarantine upon the assurance of the captain that there was no sickness on board. A similar occurrence was reported from New York not many months since.

A REMARKABLE LAPAROTOMY.

DR. W. T. BULL, visiting surgeon at the New York Hospital, performed, November 3d, a remarkable laparotomy, the result of which has thus far, November 22d, been strikingly successful. The patient was a male, the victim of accidental shooting with a 32 calibre revolver, the ball entering to the left of and just below the navel. There were no symptoms of perforation, and he was in good general condition twelve hours afterwards. The bullet wound was explored under ether and found to penetrate the abdominal cavity. Laparotomy was performed, sutures taken in seven intestinal perforations, and the ball removed from the wall of the sigmoid flexure.

Favorable progress has been made since without serious symptoms of any kind, complete recovery being only delayed by an extra-peritoneal abscess in the abdominal wall.

— It is said that Bellevue Medical College will hereafter issue its diplomas in English instead of in Latin as heretofore.

[2] See vol. xciii., p. 692.

MEDICAL NOTES.

— By the will of the late Mrs. L. J. Kowles the sum of $25,000 is bequeathed to the City Hospital, Worcester, Mass.

— *The North-Western Lancet*, published at St. Paul, Minn., has passed under the editorial charge of C. B. Witherle, M. D. (Harv.), formerly of this city. The magazine is to be enlarged and otherwise improved.

— An epidemic characterized by hysteric and choreic phenomena is described in *Lyon Medical* (October 5th, *et seq.*) remarkable for its extent among a rural and ignorant class of persons and of young age. It occurred in a town of Ardèche, and began with a girl of eleven who was frightened by hearing the particulars of the death of a young companion. There was marked hyperæsthesia, especially of the senses of touch, hearing, and sight, followed by spasmodic contractions of certain groups of muscles. She continued at her work (connected with silk weaving), and soon other children who at first had laughed at her contortions were similarly affected. Nine other girls and two boys in all became victims to this strange disorder. When all were at work in a common hall an attack of convulsions would come upon all at once as by an electric shock. A peculiarity of the case was that several of the girls had not yet menstruated; in these no ovarian tenderness could be detected. Isolation and hydrotherapeutics constituted the principal treatment, which was effective in stopping the epidemic.

— A young female in a Spanish town is reported in the *Deutsche Medizinal Zeitung* (16th October) as in a remarkable cataleptic condition. She is twenty years old, and for nine months has not opened her eyes. She has become completely deprived of sensation. Various mechanical means, such as pricking, burning, friction, etc., have been tried to rouse her, but in vain. The respiration is regular, somewhat slowed, as is also the heart beat. The face neither very pale nor red. Body and limbs are very emaciated, with normal temperature. The teeth are closely shut on one another. The eyelids can scarcely be opened enough to allow of seeing the sclerotic.

— A correspondent of the *Medical Record* has recently published a list of "Therapeutical Delusions" of a pretty sweeping character, among which many practitioners will recognize some of their own pet prescriptions. That journal says editorially: —

"We have carefully examined the 'delusions' set forth by our correspondent, and find that in the main they agree with the results of the more conservative clinicians and of pharmacological experiments." They are as follows: "It is a delusion that veratrum viride or aconite will abort croupous pneumonia or essentially modify its course; that chlorate of potash is of any use in catarrhal angina; that nitrate of potash is an anti-pyretic, anti-rheumatic, or (to any appreciable extent) a diuretic; that lime-water will dissolve a diphtheritic or croupous membrane; that nitrate of silver is of any value in epilepsy; that the excessive and continuous use of iron induces plethora with dizziness, flushings, and palpitations; that iron should be given in phthisis; that mercury is anti-plastic and anti-phlogistic; that arsenic has any value in diabetes; that iodide of potassium promotes absorption of serous exudations and of non-specific connective tissue in hyperplasia; that sulphur and sulphur in baths is of any value in rheumatism; that charcoal, when moist in the stomach and intestines, has any absorptive power, or is of any use in flatulence by virtue of that power; that dilute acids are 'cooling,' that is, lower temperature and lessen heart action in the non-febrile; that colchicum is beneficial in rheumatism; that drinking sulphuric acid prevents chronic lead-poisoning; that iodoform given internally is anything but a poor substitute for iodide of potassium; that croton-chloral has a specific effect on the fifth cranial nerve; that tannic acid (or the plants containing it) is of any value given internally for hæmorrhages, except, perhaps, those of the stomach and bowels, or that it is of any value as a gargle in chronic pharyngitis, or that it is an astringent to mucous surfaces or blood-vessels; that turpentine is a stimulant to the heart and nervous system; that musk is a nerve or heart stimulant (it belongs with turpentine to nerve depressants); that ox-gall is of the slightest therapeutical utility; that hydrocyanic acid in ordinary medicinal doses is either a local or general sedative (it is rather an irritant); that quinine in either large or small doses is a stomachic, except in convalescence from malarial attacks; that hydriodic acid has any specific effects other than those possessed by the iodides."

— The significance of "intermittent pulse" is treated of by Dr. B. W. Richardson in the *Asclepiad*, July, 1884. The author states that if it occur in infancy it is an important indication of the existence of serious nervous derangement. Occurring in young adults it has the same meaning, and tells the story of commencing failure of power. In five cases the author has known it to be the first physical indication of derangement of mind in which suicide was attempted. In persons advanced in life and in persons prematurely old intermittency is often the herald of symptoms of nervous failure. Persons in whom there is permanent intermittent action of the pulse pass through all acute diseases with less chance of recovery than others of similar age and like constitution who have no such failure. The author also states that he has often noticed the hereditary character of the phenomenon. With reference to treatment, there is no known specific method. Excitement should be avoided, and in cases where there are symptoms of cerebral congestion depletive measures are sound. Nothing relieves the intermittent action of the heart so rapidly as alcohol judiciously administered, and nothing clenches the affection more decisively than alcohol indiscriminately prescribed. All alcoholic fluids as beverages must be avoided, but if the case demand it then at bed-time half an ounce of pure alcohol in warm water will often act most effectively.

NEW YORK.

— At a meeting of the County Medical Association held November 17th, Dr. Charles A. Leale read a

paper entitled A Study of Asiatic Cholera during the Epidemic of 1866, in which he said the following formula had proved of service in his hands: —

℞ Morphiæ sulph. . . . . gr. i.
Tinct. cardamom comp. . . . . f 3 i.
Tinct. capsici . . . . . f 3 iij.
Spts. camphoræ . . . . . f 3 i. M.

Of this a teaspoonful was to be taken, in two ounces of water, every fifteen minutes until the symptoms were relieved or rendered tolerable. It was then to be given at longer intervals until the effects of the morphia were observed on the pupils. The medicine might be required for at least three days.

— The recent meeting of the State Association was a splendid success in every way, and it was especially noteworthy for the large number of gentlemen in attendance from distant parts of the State, as well as of delegates from other States. Among the latter were Dr. Fifield, of Boston, Drs. Clark and Upham, of Vermont, Drs. M. H. White and W. C. Wile, of Connecticut, Dr. Garnett, of Washington, and Drs. Gross, Atkinson, Shakespeare, Solis-Cohen, Keating, Packard, and Nancrede, of Philadelphia. Dr. Earle, of St. John, New Brunswick, was also among the guests.

— *New York Cancer Hospital.* By the will of the late Mrs. General Cullum, one of the founders of this hospital, the Halleck estate in San Francisco, estimated to be worth $100,000, is left to this institution. At the time of its organization Mrs. Cullum subscribed $50,000. It is this hospital to which Mr. John Jacob Astor gave $200,000 a few months ago. The buildings are in process of erection at Eighth Avenue and One Hundred and Fifth Street, opposite Central Park, and will be completed in about a year's time.

— *Abdominal Surgery in the General Hospitals.* The general surgeons are entering on this field of practice, and with marked success. Dr. Stimson has recently reported two successful cases of supra-vaginal hysterectomy from the Presbyterian Hospital. At St. Luke's Drs. Peters, Little, McBurney, and Bull have performed eight laparotomies for ovarian or uterine tumors, with but one death, and one vaginal extirpation of the uterus with recovery. At the New York Hospital within the past three months the services of Drs. Weir and W. T. Bull have furnished a series of two ovariotomies, one supra-vaginal hysterectomy, and three vaginal extirpations of the cancerous uterus without a death. With the exception of Dr. Stimson's cases, which were treated in the General Hospital wards, most of these patients were operated on and treated at least for a week or ten days in private rooms. At the Woman's Hospital the "tumor patients" are still put into cottages.

WASHINGTON.

— Dr. Hosmer A. Johnson, of Chicago, has resigned from the National Board of Health, and Mr. W. P. Dunwoody, formerly clerk of the Board, has been appointed in his place. Mr. Dunwoody has also been appointed secretary of the Board to succeed Colonel Waring, who has resigned that office. We understand the funds of the Board are completely exhausted.

— Dr. S. V. Bemiss, of New Orleans, a former member of the Board, died lately.

Miscellany.

ADJOURNED CONFERENCE OF STATE BOARDS OF HEALTH.

At the conclusion of the report on the Prevention of Epidemic Cholera in America, during the meeting of the National Conference of the State Boards of Health at St. Louis, Mo., on the 13th and 14th of last month, and after urging upon Congress in the strongest terms its duty to enact such legislation and to appropriate such funds early in its coming session as will prevent the importation of this disease to our shores, it was resolved that when this Conference adjourned it should be to meet in Washington, D. C., the second Wednesday in December next, and that the Secretary be directed to invite the attendance at that time of the quarantine officers and the health officers of the principal cities in the United States and Canada; and that all delegates to that meeting be prepared to report the sanitary status of their State or locality, and what steps have been taken to improve the same, and to prevent the introduction of disease.

In accordance with this resolve a meeting of the Conference will convene at the Ebbitt House at ten A. M. December 10th.

SEWAGE FARMING AT PULLMAN.

The Pullman sewage farm, which is the largest experiment of purification of sewage by filtration in this country, says the *Chicago Tribune*, is *apparently* a success, both as to the purification of sewage, quantity and quality of crops, and financial return. It is on the Calumet River, near Kensington, and the sewage from Pullman is conveyed to it through an immense iron pipe three miles in length. The sewage is distributed through surface drains, and is carried off clear and odorless by a system of under-drainage. It has been in operation two years with the following comparative result: —

	1883	1884
Cabbages, heads	120,000	200,000
Potatoes, bushels	7,958	6,400
Onions, bushels	1,000	3,500
Squash, tons	10	45
Turnips, bushels	100	500
Celery, dozen bunches	8,200	18,000

Full cars of produce have been shipped all over the United States to such places as Vicksburg, Miss., Pittsburg, Pa., New Orleans, La., Atlanta, Ga., Memphis, Tenn. In less than car load, produce has been shipped as far east as Hartford, Conn., and Preston, Mass., and south as far as Galveston, Tex.

Sauerkraut works have just been completed, and if the low price of cabbage continues a large quantity of the article will be manufactured. A dairy farm stocked

with Holsteins has been started. Undrained land sown in oats averaged twenty-two bushels to the acre this year. Hay to the amount of one hundred tons was cut. About forty men and boys are employed. Middle men are not allowed to handle the produce. The crop of this year is larger than that of last year, but prices are lower. The crop of 1883 paid eight per cent. on the investment.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 15, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	659	262	20.40	16.66	2.25	2.05	10.35
Philadelphia	927,995	394	139	22.75	13.75	1.00	4.00	13.25
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	222	92	31.50	10.80	2.70	3.60	15.75
Boston	423,800	215	71	16.92	15.51	.97	4.23	4.65
Baltimore	408,520	133	42	15.54	15.54	4.44	1.48	4.44
St. Louis	400,000	160	59	34.65	11.34	5 67	3.78	15.75
Cincinnati	272,400	128	50	23.40	14.82	8.58	3.12	3.90
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	78	20	14.80	25.60	1.28	5.12	6.40
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	46	13	21.74	10.85	—	6.51	6.51
New Haven	62,882	29	7	10.35	10.35	—	3.45	6.90
Nashville	54,400	18	5	44.44	16 66	16.66	—	22.22
Charleston	52,286	29	9	10.35	10.35	6.90	—	—
Lowell	71,447	24	7	12.48	12.48	—	—	8.32
Worcester	69,442	16	7	25.00	6.25	—	—	—
Fall River	62,674	20	9	25.00	10.00	5.00	5.00	5.00
Cambridge	60,995	15	5	20.00	13.33	—	6.66	13.33
Lawrence	45,516	15	6	13.33	20.00	6 66	6.66	—
Lynn	44,895	11	4	—	27.27	—	—	—
Springfield	38,090	7	2	14.28	14.28	—	14.28	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	—	—	—	—	—	—	—
New Bedford	30,144	10	1	30.00	10.00	—	20.00	10.00
Salem	29,503	12	3	—	16.66	—	—	—
Chelsea	24,347	9	2	—	22.22	—	—	—
Taunton	22,693	8	0	12.50	—	—	12.50	—
Gloucester	21,400	3	1	33 33	33.33	33.33	—	—
Haverhill	20,905	8	3	50.00	12.50	25.00	—	—
Newton	19,421	7	1	—	14.28	—	—	—
Brockton	18,323	5	1	—	20.00	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	8	1	—	25.00	—	—	—
Fitchburg	13,433	—	—	—	—	—	—	—
Ninety-two Massachusetts towns	—	85	15	15.34	18.88	5.90	—	5.90

Deaths reported 2374: under five years of age, 837; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 514, consumption 360, lung diseases 303, diphtheria and croup 228, typhoid fever 76, diarrhœal diseases 64, scarlet fever 49, measles 31, whooping-cough 23, malarial fevers 20, cerebro-spinal meningitis 13, puerperal fever six. From *scarlet fever*, Philadelphia 11, Boston 10, New York eight, Chicago seven, St. Louis four, Cincinnati three, Providence two, Haverhill, Quincy, Chicopee, and Randolph one each. From *measles*, New York 15, Cincinnati six, Philadelphia, Chicago, and Fall River one each. From *whooping-cough*, New York eight, Boston four, Philadelphia and Baltimore three each, Chicago two, St. Louis, District of Columbia, and Haverhill one each. From *malarial fevers*. St. Louis nine, New York five, Baltimore three, Philadelphia, Chicago, and Nashville one each. From *cerebro-spinal meningitis*, New York and Chicago four each, Worcester two, Cincinnati, Providence, and Lowell one each. From *puerperal fever*, Chicago four, Providence and Charleston one each. From *erysipelas*, New York, Philadelphia, Chicago, and Lowell one each.

Two cases of small-pox were reported in St. Louis. Cases reported in Boston: scarlet fever 61, typhoid fever 32, diphtheria 20, and measles eight.

In 109 cities and towns of Massachusetts, with an estimated population of 1,379,064 (estimated population of the State 1,955,104), the total death-rate for the week was 18.01 against 22.66 and 17.72 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending November 1st, the death-rate was 20.6. Deaths reported 3464: infants under one year of age 902; acute diseases of the respiratory organs (London) 348, diarrhœa 84, fever 67, scarlet fever 66, measles 57, whooping-cough 50, diphtheria 31, small-pox (London 21, Birkenhead two, Hull one) 24. The death-rates ranged from 15.0 in Norwich to 28.8 in Preston; Birkenhead 17.2; Birmingham 21.1; Bradford 21.4; Leeds 21.0; Leicester 25.5; Liverpool 23.0; London 19.5; Manchester 23.9; Nottingham 16.5; Sheffield 21.0; Sunderland 20.8. In Edinburgh 18.8; Glasgow 26.8; Dublin 24.7.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM NOVEMBER 15, 1884, TO NOVEMBER 21, 1884.

COWDERY, S. G., captain and assistant surgeon. Granted leave of absence for one month. S. O. 237, Department of the East, November 17, 1884.

HAVARD, VALERY, captain and assistant surgeon. Granted leave of absence for four months, — permission to go beyond sea, — to take effect when his services can be dispensed with at his present station. S. O. 268, A. G. O., November 14, 1884.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Assigned to duty at Fort Keogh, M. T. S. O. 134, Department of Dakota, November 5, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 22, 1884.

AMES, HOWARD E., passed assistant surgeon. Detached from the Greely Relief Steamer Bear and assigned to special duty in New York. November 17, 1884.

BRIGHT, GEORGE A., surgeon. Detached from the Galena and placed on waiting orders. November 19, 1884.

CLEBORNE, C. J., medical inspector. To duty at Philadelphia, Pa., as member of Medical Examining Boards. November 21, 1884.

DU BOIS, F. L., surgeon. When detached from the Naval Examining Board, November 29th, is ordered to the Galena. November 20, 1884.

GREEN, EDWARD H., passed assistant surgeon. Detached from the Greely Relief Steamer Thetis and assigned to special duty in New York. November 17, 1884.

HALL, J. H., surgeon. Detached from Navy Yard, Mare Island, and assigned to duty at the Naval Hospital at that Yard. November 19, 1884.

HUGG, JOSEPH, surgeon. To the Minnesota as relief of Surgeon Woolverton. November 15, 1884.

MARTIN, WILLIAM, assistant surgeon. To special duty in connection with the New Orleans Exposition. November 19, 1884.

NASH, F. S., passed assistant surgeon. Detached from the Greely Relief Steamer Alert and assigned to special duty in New York. November 17, 1884.

SIMON, W. J., surgeon. To the Philadelphia Hospital for treatment. November 17, 1884.

WOOLVERTON, T., surgeon. Detached from the Galena and placed on waiting orders for sea service. November 15, 1884.

OBITUARY.

DR. SAMUEL AUGUSTUS FISK died at his residence in Northampton, of organic disease of the heart, on Sunday, November 16, 1884, at the age of sixty-three. He was born in Cambridge, Mass., graduated at Yale College in 1844, and received his degree of M. D. at the University of Pennsylvania in 1846, establishing himself at Northampton four years later. He was President of the Massachusetts Medical Society from 1870 to 1872.

Of few men could it more regretfully be said, "The place which knew him shall know him no more." His life was eminently not one of those to be measured by figures on a dial, but rather by all which he did and purposed, and by all the sterling influences of his character. The good he did will live after him.

During his term of active practice his kindly presence and acknowledged skill were the solace and reliance of his patients; while his energy, sagacity, and high sense of honor gave him influence, not only among his fellow townsmen and the physicians of his immediate neighborhood, but extending through the counties of Western Massachusetts.

Thus he lived, devoted to his family, loyal to his friends, faithful to his profession. The education of his nephew for the profession he loved was to him an object of the deepest interest.

As in all his social and professional relations, so as President of the Massachusetts Medical Society he was an example of dignity, courtesy, fidelity, and sound judgment; and his zeal for its interests and reputation continued during his life, through all the anxieties and infirmities of threatening disease, of which he knew himself to be the subject.

BOOKS AND PAMPHLETS RECEIVED. — A Practical Treatise on Massage. Its History, Mode of Application, and Effects, Indications and Contraindications, with Results in 1400 Cases. By Douglas Graham, M. D., Fellow of the Massachusetts Medical Society. New York: Wm. Wood & Co. 1884.

An Aid to Materia Medica. By Robert H. M. Dawbarn, M. D. New York: J. H. Vail & Co. 1884.

Diseases of the Nose. By Clinton Wagner, M. D., Professor of Diseases of Nose and Throat in the New York Post-Graduate Medical School, etc. New York: Bermingham & Co. 1884.

Medical Diagnosis. A Manual of Clinical Methods. By J. Graham Brown, M. D., F. R. C. P. Edin., etc. Second Edition. Illustrated. Bermingham & Co. 1884.

Lectures on Diseases of the Rectum. Delivered at the Medical Department of the University of the City of New York. By J. Williston Wright, M. D., Professor of Surgery. New York: Bermingham & Co. 1884.

Tracheotomy in Croup. By George W. Gay, M. D., Surgeon to the Boston City Hospital. (Extracted from the Medical News, July 12, 1884.)

Harlan P. Hubbard *vs.* The Dr. S. A. Richmond Medical Company. Arguments of Ex-Gov. Silas Woodson and Col. J. W. Strong. In Opposition to the Allowance of Claim Presented.

Eighth Annual Report of the Boston Water Board for the Year ending April 30, 1884. Boston.

Third Annual Report of the State Board of Health of the State of New Hampshire. For the Fiscal Year ending April 30, 1884. Concord, N. H. 1884.

Forty-Second Report to the Legislature of Massachusetts Relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the Year ending December 31, 1883. Together with the Report relating to the Returns of Libels for Divorce for the Year 1883. Public Document.

Medical Rhymes. A Collection of Rhymes of ye Ancient Time and Rhymes of the Modern Day. Rhymes Grave and Rhymes Mirthful, etc., etc. Selected and Compiled from a Variety of Sources by Hugo Erichsen, M. D. Illustrated. St. Louis: J. H. Chambers & Co. 1884.

On Oxygen as a Remedial Agent. By Samuel S. Wallian, A. M., M. D. (Reprint from Medical Record.) New York. 1884.

Fourth Annual Report of the State Board of Health of New York. Transmitted to the Governor, February 21, 1884.

Transactions of the Michigan State Medical Society. For the Year 1884. No. IV. Vol. VIII.

The Use of Ergot in Obstetrics. By Philip C. Williams, M. D. (Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland.) 1884.

A Theoretical and Practical Treatise on Hæmorrhoidal Disease, Giving its History, Nature, Causes, Pathology, and Treatment. By William Bodenhamer, A. M., M. D. Illustrated. New York: Wm. Wood & Co. 1884.

A Practical Treatise on Diseases of the Ear, including a Sketch of Aural Anatomy and Physiology. By D. B. St. John Roosa, M. D., LL. D. Sixth Edition, Revised and Enlarged. New York: Wm. Wood & Co. 1885.

Some Notes on the Pathology of Intra-Nasal Inflammation. By John N. Mackenzie, M. D., of Baltimore. (Extracted from Medical News, October 4, 1884.)

Quiz Compends? No. 10. A Compend of Organic and Medical Chemistry, including Urinary Analysis and the Examination of Water and Food. By Henry Leffmann, M. D., D. D. S., Professor of Chemistry and Metallurgy in the Pennsylvania College of Dental Surgery, etc. Philadelphia: P. Blakiston, Son & Co. 1884.

Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-Book specially adapted for Students of Pharmacy and Medicine. By W. Simon, Ph. D., M. D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons, Baltimore, Md. With Sixteen Illustrations on Wood and seven Colored Plates, representing fifty-six Chemical Reactions. Philadelphia: Henry C. Lea's Son & Co.

Hair, Microscopically Examined and Medico-Legally Considered. By Wm. J. Lewis, A. M., M. D., F. R. M. S., Hartford, Conn. Read at the Annual Convention of the American Society of Microscopists, August, 1884. (Reprint from Proceedings of the Society.)

Address.

CONSERVATIVE PROGRESS.

FIRST ANNUAL ADDRESS TO THE NEW YORK STATE MEDICAL ASSOCIATION, DELIVERED IN NEW YORK, NOVEMBER 18, 1884.

BY HENRY D. DIDAMA, M. D., SYRACUSE, PRESIDENT.

THE advance of science is hindered not more by obstinacy than by fickleness.

The skepticism which uses an honest crucible is a blessing; the skepticism which wields a club, and smashes old things indiscriminately *because* they are ancient is a curse. Underneath its destructive malice is often a credulous and craven tenderness for anything which is new.

One face of Janus was emblematic of Memory, and looked benignly upon the past with its garnered treasures; the other represented Hope, and peered eagerly into the rich possibilities and promises of the future. These faces were not mutually inimical; they were complemental; they were unity in diversity.

In medicine, bigotry and laziness sometimes call themselves conservative; opposed to these are discontent and love of novelty, which may assume the label progress; but genuine progress and enlightened conservatism work harmoniously together to perfect medical science: the one patiently tests all things, the other holds fast that which is good.

In medicine much is worthy of conservation; not a little is still moot; research is very active and confident; vast fields await exploration. Your attention is invited to a few illustrations and suggestions.

In *Pathology* the predisposing causes of disease are fairly well known by long and careful observation: but in the dazzling field of the microscope they are apt to be forgotten.

Inheritance, acquired vices, insufficient or improper or excessive food and drink, vitiated air, deficient sunlight, exposures, indolence, overwork, worry, these are predisponents which act by so impairing the resisting power that attacking foes of feeble potency are able to gain an easy victory.

Many diseases, such as eruptive, contagious, and malarial fevers; pneumonia, consumption, erysipelas, septicæmia, pyæmia, and even suppuration are now quite generally regarded as the work of micro-organisms — the *contagium vivum*.

The doctrine of germs is essentially modern; although Harvey is thought to have had glimpses of its truth more than two hundred years ago. But Harvey never regarded germs as living particles, capable of prolific multiplication; he considered the emanations from a certain disease able — by what he called a seminal influence — to propagate the same disease in a healthy person.

The witty Jonathan Swift, in the early part of the last century, described a microscopic specialist whose enthusiasm is hardly eclipsed by the zeal of any modern observer. He had discovered worms in the flesh of certain diseased animals, and he published an account of his observations. His paper attracted some attention and received favorable comment. Inflated with flattery and vanity, the now famous discoverer continued to use his lens, and forthwith published the startling announcement that worms are the fountain and origin of all diseases.

In the present germ excitement — analogous to the gold fever of 1848 and the petroleum craze of later years — we are not to ignore other and well-established causes. We encourage the search for new *microzymes* — as we do prospecting for gold and oil; we watch intently each promising indication, but we prudently reserve our credence and wait for verifications of alleged discoveries, knowing that some observers have that keen vision pointed out in the couplet: —

> "Optics sharp it needs, I ween,
> To see what is not to be seen."

We not only braid fadeless chaplets for the modest brows of those who unearth a new *Bacillus*, whose pedigree can be established beyond question, but we bestow our admiration upon those ingenious philological microscopists who, if they cannot diagnosticate hereditary diseases by the physiognomy of the blood corpuscle, are yet able to invent some magnificent name for the minutest pest which infests the human organism.

We urge that investigation cannot be too extensive and thorough, but we counsel that there be no premature rushing into print with generalizations, lest the observations shall turn out illusory, lest alleged causes shall prove to be but unimportant coincidences.

The reward for patient work may be slow in coming, like the flour from the mills of the gods, but it will be of excellent quality at last.

If he is worthy of national gratitude who makes two blades of unnecessary grass grow where but one had a feeble struggle for existence before, how much more deserving of temporary immortality is he who establishes his claim to a new *cacozyme*, be it *bacillus* or *micrococcus* or *spirillum*, especially if he can tell us what to do with it.

The specific micro-organisms of tuberculosis and splenic fever and — perhaps — cholera have been differentiated; those of miasmatic diseases, seen as the *palmella* in Ohio by a genius of sharp optics, and as a micrococcus by Italian observers, remain to be verified. There should be little doubt of their existence, notwithstanding the incredulity recently expressed by an eminent writer who still pins his faith to the ancient notion that a poison is generated by decomposing vegetation. For while a living and developing organism will account for all the facts of origin, incubation, and behavior of miasmatic fevers, a dead poison is quite unsatisfactory and insufficient.

But the germs which cause scarlatina, measles, pertussis, etc., have thus far eluded search. It is still an undecided question whether croupous pneumonitis be a germ fever with a local expression.

The suggestions of our eminent friend and associate, who called attention to this point several years ago, are entitled to, and are receiving, consideration throughout the world. Continued observations are still needed to confirm or overthrow the proposition.

In *Therapeutics* conservative progress finds an ample field. To prevent, to guide to a favorable termination when prevention has been neglected, to alleviate when recovery is impossible, to delay the inevitable escape of the soul from its weary prison, — these are the important duties of the physician.

A thorough knowledge of the composition and structure of the body, and of the relation of parts, is indeed of great importance. The action of organs in health, and their perverted action in disease, rightly demand the most careful study.

The foes which boldly attack the citadel of life, and the occult influences which insidiously undermine and sap the vital forces, these may well engage our earnest attention.

The fascinating analysis of our secretions and excretions, of our food and medicines and poisons, deserves all the consideration which it receives.

The innumerable instruments of precision, which promise to substitute mathematical accuracy for vague guess, and which are too often used not to supplement but to supplant other and valuable methods of investigation, these, like the tribe of Abou Ben Adhem, will continue to increase, till they become multitudinous — if not perplexing — like the grasshoppers of the West; these rightfully challenge recognition and study, while with unappeasable appetite they devour our substance if we attempt to add them all to our Armamentarium.

But anatomy and histology, physiology, pathology and chemistry, ætiology, diagnosis and prognosis; the possession of all the scopes, all the graphs, and all the meters, and the familiar and dexterous use of them; all these, interesting as they may be to the scientist, important and indispensable as they may be as preliminaries, foundations, and aids to medical skill, all these are practically worthless except as they contribute to the relief of human suffering.

"The real physician," says Broussais, "is the one who cures; the observation which does not teach the art of healing is not that of a physician, it is that of a naturalist."

And paraphrasing Sacred Writ, it may be added: there remaineth therefore pathology, diagnosis, therapeutics, these three; but the greatest of these is therapeutics.

Therapeutics, then, — which includes all means to prevent and manage disease, — being the superstructure to which all medical ologies are but foundation stones and adornments; the very fruitage of the tree of life; the sole beneficent application of all medical science, its importance to humanity, and therefore to the physician, cannot be overestimated.

Efforts to elevate the standard of medical requirements are worthy of commendation. Owing to the fierce rivalry of schools and the facility with which incompetence secures its diploma, it has been deemed very important, by many reformers, to have the licensing power placed in the hands of an independent Board of Examiners.

Should such a Board be constituted, it may properly require a thorough preliminary training, it may be so comprehensive in its demands, and so vigorous in its examinations, that no one guilty of ignorance regarding the fundamental branches of medical and other cognate sciences shall be able to gain admission to the ranks of a noble profession.

But if, in these exalted demands and these exacting examinations, therapeutics be ignored or belittled; if therapeutics be not elevated to the highest position and regarded as the one thing needful, the very vital principle without which everything else is but dead and useless science, and with which alone the physician does all his skillful deeds of benevolence, then the ordeal to which the candidate is subjected is delusive and beggarly. It may even deserve reprobation. The object of a Board of Examiners should be to protect the community from the ravages of additional incompetency. Its action must of necessity be prospective. It cannot hope to uproot a professional ignorance, which, associated with length of years and engaging manners, has become popular and almost sacred. But it can determine the minimum amount of knowledge which must be possessed by every candidate who shall gain admission to the medical fraternity.

If its examinations shall be comprehensive and searching, and at the same time not so narrow and technical as to regard an error in orthography less excusable than a gross blunder in medical practice, it may accomplish its good purpose. But if it tithes rigorously the mint, anise, and cumin, and neglects the weightier matters of applied medical science, if it shows partiality, allowing Vitreus Ceruleus, who believes the radiance which filters through blue glass to be the only and omnipotent remedy for all diseases, and the gushing Aquarius, who dotes on and swears by magnetized spring water as a panacea, and the innocent Credulus, who puts all his faith in faith alone, and the oily and plausible Sinbad, who pretends to be under the guidance of disembodied spirits, if the Board allows these to shirk entirely the examination in therapeutics and materia medica to which plain, unpretending Medicus — who recognizes the importance of these sciences — is subjected, then when it puts these five on the same high level before the public, giving each the same indorsement and the same license, it inflicts a wrong on Medicus, places an unnecessary and useless burden on Ceruleus, Aquarius, Credulus, and Sinbad, and perpetrates a fraud on a confiding and misled community.

To serve the public wisely and well the Board should subject every applicant, whatever his callow crotchets or prejudices or intentions may be, to the same examination in every branch of medical science as understood by the vast majority of the profession. Possessing the learning requisite to pass this examination, and endowed with his credentials, the tyro should be at liberty to adopt and practice any special delusion or idiocy which his fancy may indicate or the credulity of the public make profitable. For as he can never entirely divest himself of his useful knowledge the community will have all the protection it is possible for an Examining Board to furnish.

Some of the general principles of Therapeutics are worthy of the most careful preservation. Many of the measures employed in preventing and stamping out various so-called zymotic diseases are fairly successful; and constant research is adding largely to their numbers and potency. The importance of iodine and mercury in certain diseases; the palliative and curative effect of opium in a variety of complaints; the efficacy of Peruvian bark in miasmatic affections; the desirability and possibility of preventing and subduing high temperatures in fevers and inflammations; the wonderful results secured by certain heart tonics; the neutralizing and eliminating measures which have shortened the term of rheumatism from six weeks to six days; the undiminished power for good of ferruginous preparations in suitable cases; the occasional utility and even saving power of the once abused and now as much maligned venesection: these are merely samples of therapeutic principles and practice, whose truth is attested by countless critical level-headed observers throughout the whole world.

New discoveries in etiology, pathology, and materia medica will modify our views and constantly increase our ability to overcome disease. They will show us when to interfere actively and when to watch and wait.

And while we hold fast to well-founded principles of treatment and to remedies whose adoption has been tried, we give a hearty welcome and testing to every new measure, to every new medicine, which has a satisfactory indorsement. We are hampered by no dogma; so that while we are not seduced by utopian theories, while we make no experiments with obvious and gross delusions, and while we set our faces like flint against fraudulent pretenses and practices, we carefully consider every promising suggestion, by whomsoever made, and we gladly adopt every useful discovery, and every tested new application of old principles and remedies.

(*To be concluded.*)

Original Articles.

SOME DISEASES WHICH MAY BE MERELY SYMPTOMS OF THE EFFECTS OF POISONING BY SEWER GAS.

BY F. GORDON MORRILL, M. D.

NOTWITHSTANDING the attention which bad drainage and defective plumbing with consequent evils have attracted of late years, I am quite sure that we are in the almost daily habit of overlooking the fact that certain diseases are often caused and prolonged by the unsuspected presence of sewer-gas poison. I believe that a considerable percentage of all cases of sore throat (including both forms which tonsillitis usually assumes), trouble of the digestive tract, neuralgia, rheumatism, pneumonia, gout, asthma, and even so-called "nervous prostration," is attributable to this cause; and I have named these affections in the order of frequency with which they have occurred under my personal observation when good proof of their causation or prolongation by the presence of sewer-gas has been obtained.

The cases which I give are merely outlined for the purpose of illustration (as their only claim to interest is based upon their ætiology), and are fair samples of a respectable number of each kind which I have seen during the past five years.

CASE I. Gastro-duodenal catarrh. A. B., aged six, had a very severe convulsion December 10, 1883, which proved to be a manifestation of the above-named disorder, the symptoms of which had been well-marked for a month preceding. Under a proper regimen of diet and medicinal treatment the case progressed favorably for a fortnight, when a relapse occurred, and the child seemed as far from recovery as ever. The peppermint test revealed trouble in the bath-room adjoining her chamber, which was promptly remedied and speedy recovery followed. A younger sister, who had suffered from nausea and diarrhœa during the forty-eight hours preceding the examination of the drainage, at once got better, and both children have remained perfectly well ever since.

CASE II. Diarrhœa of a watery character. C. D., aged fourteen, was suddenly seized with intense abdominal pain in April, 1879. Numerous watery discharges soon followed, and persisted in spite of energetic treatment until the third day, when the trouble ceased, only to return again in a grave form (for now blood was present in the discharges) twelve hours later. A break in the drain under the cellar floor was found and repaired, and the child at once recovered. This would read well if reported in full as a case of "winter cholera."

CASE III. E. F., aged fourteen, had been under the care of an eminent practitioner during the four months preceding my first visit. Her symptoms were weakness, progressive emaciation, and great distress after taking food, the cause of which neither physical examinations nor the condition of the urine revealed. The long continuance of her trouble, its mysterious nature, and the fact that previous treatment had obtained no better results, led me at once to have the drainage examined, strongly suspecting that something wrong would be discovered. The result justified my suspicions, for the waste pipe of the bowl in the adjoining bath-room was found untrapped and leading directly into the soil pipe (which was not continued up through the roof), and a bad break was discovered in the main drain. A slow but steadily progressive recovery followed the necessary repairs.

CASE IV. G. H., aged forty-two; mother a chronic consumptive; the lady herself of poor physique and worn out with family cares, had pneumonia, right apex, front, December 10, 1882, from which she very slowly recovered. January 20, 1883, harsh respiration still detected over seat of trouble. Progressed slowly but favorably until February 5th, when a sudden attack of watery diarrhœa, accompanied by pain and a great many discharges, reduced her greatly. This condition lasted in spite of all remedial measures for five days, when the defects of drainage which had been discovered meanwhile were remedied, and the diarrhœa ceased as quickly as it had begun. The patient's condition was such at one time as to excite grave fears, and I think a possibly fatal result was avoided by recognizing the cause of the trouble.

CASE V. Neuralgia. A young lady, aged twenty-three, who had been subject to paroxysms of intense pain in the hepatic region during the two winters preceding my visit, was seen by me for the first time November 28, 1883, on which occasion the paroxysm was severe enough to require the hypodermic injection of one half grain of morphia. A history of her trouble revealed the fact that while absent from the city during the summer months she never had pain, but that upon her return to town the paroxysms at once began, and towards midwinter occurred with great frequency. She had been treated homœopathically for a long time as a case of congestion of the liver. Examination of the plumbing revealed an absence of any trap under the set bowl — which in this case was placed near the patient's bed. This deficiency was supplied, and the pain has never returned.

I can recall a number of neuralgia in which sewer gas has played an important part, and mention this one merely on account of its somewhat rare location.

CASE VI. Tonsillitis. J. K., aged thirty-seven. Subject for years to inflammation of the tonsils (accompanied by enlargement, but no deposit of any kind), which would confine him to the bed. In 1880 he came under my care twice with this affection.

No trap under set bowl. The patient, who is an active business man, decided to prevent any possible further trouble from this source, so had the pipe cut and sealed up, and a large jar placed under the bowl to receive the flow off. Since that time he has not had a tonsillitis.

Cases of follicular tonsillitis are often attributable to

sewer-gas poison, and numerous instances illustrating this fact have come under my observation, with the details of which I will not trouble my readers, as I think most of us realize that both this trouble and the ordinary erythematous sore throat may be thus caused. Dr. Langmaid informs me that in cases of public singers sojourning at hotels he has on several occasions advised cutting and sealing the waste pipes of set bowls to hasten the cure or prevent the recurrence of throat troubles.

CASE VII. Rheumatism. L. M., aged forty-two, subject to very severe attacks of inflammatory rheumatism and also gout, the latter being hereditary. In the house which he lived in cerebro-spinal meningitis, pneumonia, scarlet fever, and nearly all the other ills which flesh is heir to held full sway during the two years following the introduction of modern conveniences into an old-fashioned family mansion. His wife, too, had two severe attacks of rheumatic fever during this period. Competent authorities pronounced the entire arrangement of plumbing and ventilation to be faulty in the extreme, and L. M. decided to seek another residence, which he speedily found. Results: In his wife's case no more rheumatism. In his own case neither rheumatism or gout for eighteen months, when an attack of the former followed long exposure on a marsh during a shooting trip in the West.

CASE VIII. Pneumonia. An aged lady, the grandmother of Case II., a monomaniac on the subject of warmth, who never ventured out-doors from November 1st to the middle of May, had an attack of acute pneumonia in April, 1879, after a winter passed under the protecting influences of furnace heat, open fires, window strips, and numerous shawls and wraps of all kinds. At the same time another member of the family had watery diarrhœa (Case II.) and I think both diseases may be fairly attributed to the same cause.

CASE IX. Asthma. A little girl, aged eight, had severe paroxysms of asthma in the winter of 1878. The patient lived in a house where numerous faults in drainage and plumbing were discovered. The family were in poor circumstances, and the terms of their lease were such as to render them responsible for all repairs, while their lack of means prevented their seeking another residence until the present lease expired. Up to the time of their removal (October, 1878) the child continued to suffer from asthma, but the attacks ceased immediately after changing her residence to a house where the sanitary arrangements were good.

CASE X. Nervous prostration. Mrs. X., a lady of rather flighty temperament, but who had enjoyed good health until within two years of her first coming under my observation, in December, 1881. During the period mentioned she had suffered from intense weakness and all sorts of anomalous complaints, in short, her condition seemed composed of equal parts of hysteria and debility, and her life had become a burden to her family as well as herself. She had been assiduously treated by a regular physician during the first eighteen months, and during the six months preceding my first visit had been trying the "faith cure," so called, which in her case seems to have consisted in hiring a female of unprepossessing exterior and exaggerated dignity of manner to stare at her steadily for an hour or two every day. I was summoned to advise regarding an acute rheumatic affection which had recently appeared. Her other symptoms, with the mysterious nature of which she was fully impressed, she preferred to have remain under the supervision of the exponent of the "faith cure." Salicylate of soda very soon relieved her rheumatism, and I ventured to suggest that it would be well to have the drainage inspected. To be brief, this was found to be decidedly bad, and the mason and plumber soon brought about the disappearance of the nervous prostration and the dismissal of the exponent of faith.

This case has led me to wonder whether oil of peppermint might not prove indirectly the means of relieving some few of the cases of neurasthenia, with the details of which our ears are constantly filled by sympathetic friends of the sufferers.

The point which I have tried to establish is one which is often hinted at but not pressed so strongly as I think it deserves to be. When we are called to a case of typhoid nor diphtheria we at once order an inspection of the drainage and plumbing, and are seldom disappointed in finding defects, but I am convinced that we ought also to do this in many other cases of diseases which are as yet merely suspected of being infectious, and in some to which no suspicion is attached. Sewer-gas poison seems to seek out the patient's weak spot, and often brings discredit upon the physician, whose inability to relieve his patient is due to his failure to appreciate its unlimited powers of mischief.

THE USE OF MANACA (FRANCISCEA UNIFLORA) IN THE TREATMENT OF ACUTE RHEUMATISM.

BY HERBERT C. ROGERS, M. D., BROOKLYN, N. Y.,
Adjunct Surgeon Long Island College Hospital.

MY attention was first called to manaca by a physician practicing in South America. I am in the habit of giving the fluid extract in ten to twenty drops, using the preparation made by Parke, Davis & Co., of Detroit, Michigan.

CASE I. March 3, 1883. Was called to see James D., aged twenty-one, a native of Ireland, car driver. He had enjoyed good health until three days ago, when he was suddenly seized with a severe chill followed by fever and sharp pains in his limbs. The next morning he was unable to walk. The left knee and ankle were swollen, red, and painful. The right knee had been affected, but got better before he sent for me. He perspires profusely. Suffers most from his pain at night. He complains much of headache. Tongue badly coated. Bowels constipated. Urine deeply colored and free from albumen; specific gravity 1030. Pulse 130. Temperature 104° F. He was ordered five grains of calomel and ten grains of compound jalap powder, also ten drops of fluid extract of manaca every three hours. The painful joints to be covered with cotton.

March 4th, eleven A. M. He has had but little sleep during the night. The right knee and ankle have become inflamed. He suffers a good deal from headache. Bowels have moved several times. Examination of his heart negative. Ordered ten drops of tincture of opium with the fluid extract manaca every three hours. The painful joints to be wrapped in cloths wet with liq. plumbi et opii. Temperature 104½° F. Pulse 130.

March 5th, 11.30 A. M. Patient passed a better night. Has been able to sleep three hours. Swelling

and pain less. Temperature 103½° F. Pulse 120. Headache better. Vomited once towards morning Bowels have moved three times during the last twenty-four hours. Examination of heart negative. Treatment continued.

March 6th, two P. M. Still improving. Temperature 103° F. Pulse 120. Stopped opium unless pain should become severe. The fluid extract of manaca increased to fifteen drops every three hours.

March 7th, ten A. M. Pain, heat, and swelling have disappeared from all the joints with the exceptions of the right knee and left elbow. Treatment as before. Temperature 101° F. Pulse 114.

March 8th. Temperature 100¾° F. Pulse 110. No change in condition since yesterday.

March 9th. Found patient sitting up. The inflammation has disappeared from elbow. He says he feels well, and wants to go out. Temperature 99⅗° F. Pulse 100. Is to take the manaca three times daily.

March 12th. Patient about the house. Says he feels as well as he ever felt in his life, and is anxious to go to work. All joints are in a healthy condition. Appetite good. Is to take the manaca for a few days longer. Careful examination of his heart fails to detect any abnormal murmur.

CASE II. March 22, 1883. Fannie C., aged twenty-one, born in England, single, a seamstress by occupation. She had been confined to her bed for two days. Complains of pain, attended by swelling and redness, in almost all her joints, particularly of the knee and wrist. She has not been able to sleep for two days. The pulse rapid, 120. Tongue thickly coated. Urine high colored, free from albumen. Temperature 103° F. Ordered ten drops of the fluid extract of manaca in water every three hours, and one fourth of a grain of sulphate of morphia at bed-time. The painful joints to be enveloped in cotton-wool. Ordered a milk diet.

March 23d, ten A. M. The patient feels about the same. Has been able to sleep a few hours during the night. Temperature 102⅘° F. Pulse 120. Treatment continued.

March 24th, 10.30 A. M. Patient complains of severe pain in the shoulders and hands. Other joints are a little better. Increased the fluid extract of manaca to fifteen drops every three hours, and to take one sixth of a grain of sulphate of morphia every two hours till pain is relieved. Careful examination of the heart fails to disclose any abnormal murmur. Temperature 102° F. Pulse 118.

March 25th. Slight improvement. Pain in the hands and shoulders not so bad. The morphia seems to affect her bowels. Temperature 102° F. Pulse 118.

March 26th. Condition about the same. Pain, swelling, and redness disappearing from the joints. Reduced the fluid extract of manaca to ten drops every four hours. Temperature 101¾° F. Pulse 100.

March 27th. Same as last note. Temperature 101¾° F. Pulse 100. Continued treatment.

March 28th. A distinct systolic murmur was heard at the base of the heart to-day. The pulse has increased in frequency, being 120. Temperature 101¾° F. Is to take twenty drops of the fluid extract of manaca every three hours.

March 29th. Examination of heart to-day reveals a very loud murmur at the base, completely masking the second sound, and heard under the clavicle. A few bronchial râles are heard over the anterior part of the chest. Temperature 100¾° F. Pulse 116.

March 31st. Symptoms continue about the same. A double murmur is still plainly audible. The pain in all the joints is much less. The fluid extract to be taken every four hours. Temperature 100° F. Pulse 100.

April 2d. The improvement still continues. Her appetite is increasing, and she sleeps better. Temperature 100° F. Pulse 100.

April 4th. Condition about the same as last note. Temperature 99° F. Pulse 90. Treatment continued, with ten drops of tincture of iron three times daily.

April 7th. The double murmur still continues, but not so loud. It is heard at the upper end of the sternum, below the clavicle, but faintly at the apex. Temperature 98° F. Pulse 90.

April 10th. The pain is gradually passing away. The murmur is very faint at this examination. To take five drops of the fluid extract of manaca three times daily.

April 14th. The murmur has entirely disappeared. The patient is up and about the house. As she is still anæmic is to take the tr. ferri for a few days longer.

CASE III. January 15, 1884. Samuel A., aged twenty-three, bar tender, born in Germany, married, always enjoyed good health until a few days ago, when his left knee began to pain him, and became swollen, red, and hot. By advice of some of his friends he rubbed the joint with kerosene oil, and wrapped it up with flannel.

January 16th, two A. M. Patient had a chill this morning followed by pain in the right knee and thigh, which are red and swollen. He cannot bear anything to touch them, and complains if any one walks across the floor, as he says it jars the bed and increases his suffering. Temperature 103° F. Pulse 124. Ordered fluid extract of manaca in doses of ten drops every three hours, and sufficient opium to ease the pain. His joints to be enveloped in cotton-wool.

January 17th. The inflammation has extended to the left thigh, both shoulders, and ankles. He is covered with a profuse, acid perspiration. Urine scanty, but free from albumen. Temperature 103½° F. Pulse 130. Increased the manaca to fifteen drops every three hours.

January 18th. Condition unchanged. Is obliged to take one and one half grains of opium to produce sleep. Increased the manaca to twenty-five drops every three hours.

January 19th. Condition about the same as last note.

January 22d. Mr. A. is feeling more comfortable. He slept better last night than he has done for over a week. The pain, heat, and redness have nearly disappeared from all the joints, with the exception of the left knee, which is still quite painful and moderately swollen. His appetite, which has been very poor for the last two weeks, is improving, and he begins to relish such food as he is allowed to take. This consists of Volentine's beef juice, milk, and Vichy water. Temperature 101° F. Pulse 116. Continued treatment, with the exception of the opium, which is to be omitted.

January 24th, nine P. M. Patient's condition about the same as last note. No abnormal heart murmur can be detected. Temperature 100⅕° F. Pulse 110.

January 27th. Found patient sitting up in bed The pain, swelling, heat, and redness have disappeared rom right knee, thighs, shoulders, and ankles. The left knee is somewhat swollen, and gives him pain

when moved or touched. Careful examination of heart and lungs negative. Temperature normal. Pulse 100. Manaca to be reduced to fifteen drops every three hours. Also ordered

℞ Ferri et quiniæ cit. . . . . gr. lxiv.
Tr. gentianæ co. . . . . q. s. ad ℥iv. M.
Sig. Teaspoonful after eating.

February 3d. Patient resumed his business this morning. The left knee is still a little swollen, but free from pain.

CASE IV. Patrick C., aged twenty-five, expressman, born in Ireland, married, came under observation April 3d. On the 1st of April the patient had a well-marked chill, with vomiting, headache, fever, and acute pain in left wrist, accompanied by heat, redness, and considerable swelling. He grew weak, lost his appetite, and felt unable to exert himself, but attended to his business until April 3d, when he sent for me. I saw him at eleven A. M. The inflammation had attacked the ankles, knees, and right shoulder. Urine scanty, high colored, free from albumen. Temperature 102° F. Pulse 118. No abnormal cardiac murmurs perceptible. Ordered milk diet and twenty drops of fluid extract manaca every three hours. The painful joints to be bathed with the following liniment: —

℞ Liq. plumbi subacetatis . . . . . ℥ij.
Tr. opii . . . . . ℥i.
Aquæ . . . . . q. s. ad Oi. M.
Sig. External use only.

April 4th, ten A. M. Condition about the same. Slept fairly well last night. Complains that the milk makes him sick. Ordered five grains of sodii bicarb. to each glass of milk. Treatment continued. Temperature 101° F. Pulse 120.

April 6th, eleven A. M. Pain in all the joints, with exception of the left wrist, has been considerably relieved. Appetite is improving. Temperature 100½° F. Pulse 110. Applied small blister (2×2) to left wrist.

April 7th and 8th. Condition same as last note.

April 10th. The swelling, redness, and pain in all the joints have greatly diminished. Careful examination of the heart to-day fails to detect any abnormal murmur. Temperature 100° F. Pulse 100.

April 16th. All acute inflammatory symptoms have disappeared. Only slight stiffness of the limbs remains. The patient is able to go about the house. Appetite fairly good. Ordered the fluid extract of manaca to be discontinued, and the following tonic to be taken: —

℞ Tinct. ferri chlorid., Syr. Zingiberis, Aquæ, ... āā ℥ij. M.
Sig. Teaspoonful in wineglass of water, after eating, through a glass tube.

REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M. D.

SIMULATED DISEASES IN CHILDREN.[1]

DR. JULIUS EROSS, assistant in the hospital at Budapest, has written a long and interesting article on this subject, describing the bad influence which sympathetic parents have on this class of cases, also the results of healthy children being brought in contact with those suffering from various nervous disorders, such as chorea. Girls were found to carry out the rôle of pretended disease better than boys. The symptoms were of all kinds: deafness, blindness, headache, pains in the extremities or thorax, palpitation, dyspnœa, spasmodic cough, vomiting, weakness of joints: clonic contractions, paralysis, convulsions, and many others. Eröss states that the unmasking of the pretended symptoms was found to be the best way to cure the children, and he cites a number of cases which he had observed in the hospital during the last three years. The following are some of the more interesting of his cases: —

I. H. K., a girl twelve years of age, began on the 8th of February to have such an intense spasmodic cough that a physician had to be summoned. Examination of the organs of respiration showed them to be normal; the cough continued with short intervals for four days, when she was sent to the hospital and soon recovered.

II. N. N., a girl six years old, pretended to be totally blind in one eye. Her father stated that she had received a blow on the left eye, that inflammation had followed, and resulting blindness. The ophthalmoscope showed the eye to be normal. The right eye was closed with a bandage and the child told to walk towards the examining physician, Dr. Vidor, who by various manœuvres soon proved that the sight of the pretended blind eye was perfectly good.

III. J. S., a girl eleven years old, was reported by her mother to have had repeated attacks of vomiting for three years; the vomiting lasted for days, sometimes weeks, and would then cease for five or six days and begin again. The vomiting was without straining. The child always retained solid food, but even a few spoonfuls of soup, milk, coffee, or water were immediately rejected. The patient looked so well nourished, and her functions were so regular, that it was soon observed that she really did not vomit at all, but that the liquids were retained in the mouth and not swallowed. She was kept in bed and only allowed to have soup and milk, which she very soon decided to swallow and retain.

IV. J. D., a girl eleven years old, had for two weeks complained of pain in the stomach, and during the attacks pains also in the upper extremities; the hands would begin to tremble so that she let her work fall and the trembling would last for several minutes.

V. R. L., a girl thirteen years old, was reported to have had the following symptoms for two years: tonic and clonic spasms of the upper extremities, of the trunk, diaphragm, and abdominal muscles followed each other in quick succession; the rigidly extended arms presented the appearance of epilepsy; the muscles of the shoulders were in active motion, so that the shoulder-blades moved quickly backwards and forwards. The lower extremities remained quiescent. These movements continued until the child had been in bed for an hour, and even then the shoulders and arms would twitch for a minute at a time. Sleep brought complete quiet, but on the next day the contractions returned as before. The child's confidence having been obtained it was found that she could at will control part of the movements while the other muscles were in action, and finally she consented to control all the movements, though for a long time she found it impossible to keep her fingers quiet on account of the contractions having extended over the long period of two years.

[1] Jahrb. für Kinderheilk., xxi. B., 4 H.

GASTRIC SYMPTOMS CAUSED BY INFLAMMATION OF THE LARYNX.[1]

The pharyngitis which accompanies certain diseases of the stomach in children, notably gastric catarrh, has for a long time been recognized and properly classed as a gastric symptom, and on the other hand disease of the larynx or pharynx may extend to the stomach either by swallowing the secretion of catarrhal, ulcerative, or malignant inflammation, by reflex irritation, or in consequence of the constant desire to swallow causing a frequent clearing of the throat and forcible swallowing of a small quantity of mucus, accompanied each time by a little air which may be thus pumped into the stomach in a sufficient quantity to cause serious derangement. In connection with this class of cases Dr. E. Löri reports some severe gastric symptoms in children, produced by inflammation of the posterior wall of the larynx.

In one case, a boy eleven years old had suffered from persistent vomiting of everything he ate for about three weeks in spite of careful treatment, all food being vomited a few moments after it was swallowed. The boy was intelligent and complained of nothing but slight pain in the stomach. On examination the posterior wall of the larynx was found to be intensely congested and swollen, so that it projected like a half hazel-nut. On the right side of the swelling was a raised white point, which proved to be a fish bone five centimetres long. This was removed, and all symptoms of stomach trouble vanished. Another child, five years old, had complained for three weeks of pain in the larynx and stomach, and during the last two weeks had had frequent eructations occurring ten to twenty-four times a minute, and only partially ceasing in sleep. The appetite was poor and the child pale and thin. Examination showed the larynx to be normal except on the posterior wall, where there were two raised points of inflammation. Tannin was insufflated, and in two days all the symptoms were improved, and after repeating the insufflation daily for two weeks the case was entirely cured. The author reports several cases of the same kind to show that in children it is not extremely rare to find gastric symptoms arising from inflammatory disease of the posterior wall of the larynx.

SEPTIC PNEUMONIA.[2]

Dr. Oscar Silbermann reports his observations on eleven cases of the septic pneumonia of infants, which have come under his care. Ten of the mothers had well-marked puerperal fever, and six of them died. Five of the infants were taken sick on the first day, five on the second, and one on the fifth day. All died. Four had pneumonia alone; seven had pneumonia and pleurisy. Icterus was only observed in four cases.

The disease always began with tracheo-bronchitis and fever. Dullness was often not well marked, and the other organs, as a rule, were not attacked.

The introduction of the poison in these cases was, apparently, by aspiration of the infected amniotic fluid.

The pathological appearances found in these primary cases of septic pneumonia were catarrhal pneumonia, and the alveoli filled with white and red blood corpuscles and cast off epithelium, while the interalveolar connective tissue remained normal.

In contra-distinction to the conditions found in these primary cases Silbermann calls attention to the cases of secondary septic pneumonia where the infection, starting from the umbilicus, extends under the peritonæum along the vertebræ, and under the aorta to the mediastinum, and thence, beside the intercostal and bronchial arteries, to the interstitial tissue of the lung and to the pleura, the alveoli remaining free. In this secondary form of pneumonia the symptoms pointing towards the lung are much less prominent, being usually masked by those caused by an accompanying peritonitis and meningitis. The author mentions also an especial predisposition in the new-born for direct puerperal infection through the air-passages, found in the peculiarly active changes in the superficial epithelial cells of the air-passages, the tendency towards innervation of the pharynx, and thus aspiration of fluid into the trachea, while the weakness of the expiration hinders the expulsion of foreign bodies from the bronchi.

THE BROMIDES IN INFANTILE THERAPEUTICS.[3]

Dr. Jules Simon, in a clinical lecture on this subject, states that the physiological effect of bromide of potash is to diminish the reflex sensibility of the mucous membrane of the pharynx and fauces. Small doses stimulate the gastric mucous membrane and increase the appetite. Large doses irritate the stomach and may cause intense gastralgia. After being absorbed the bromide of potassium slows and regulates the heart's action, but though it is not so dangerous as digitalis it cannot be given indefinitely in cardiac affections. As soon as the effect is obtained its administration should be suspended, for the continued use of it enfeebles the muscular system and the genital organs.

The bromides are indicated in eclamptic manifestations and cerebral irritability. In epilepsy progressively increasing doses should be given for several days and then gradually diminished. It is necessary, however, to keep up its administration for a long time after the attacks have ceased, using it, for instance, for fifteen days in every month. The combination of the bromide with the iodide is especially indicated in epileptic attacks symptomatic of cerebral lesions. Bromide of potassium is also indicated in the cephalalgia and cardiac irritation of adolescence. In regard to the doses, the average amount to be given to infants less than one year old is three grains in two doses at the time of nursing. Over one year, six grains may be given in two doses with food, and always well diluted. Over two years, fifteen, thirty, or even forty grains may be given until a marked physiological effect is produced. In some cases very large doses are required; in others increasing doses for five or ten days, then decreasing until it is suspended altogether.

MODIFICATIONS OF TEMPERATURE BY INUNCTIONS.[4]

Fourcault having shown that the application of an impermeable varnish to the skin of an animal causes a lowered temperature, several physicians have attempted to make a practical application of this refrigerant effect in exanthematous diseases, using fatty matters, collodion, or traumatieine (gutta-percha) dissolved in alcohol.

Schlemann and a number of German physicians, after different trials, have found that fever seems mo-t

[1] Jahrb. für Kinderheilk., xxi. B., 1 und 2 Heft.
[2] Deutsch. Archiv. f. klin. Med,. xxxiv. Bd., 3 H.
[3] Journ. de Méd. de Paris, March 29, 1884. Amer. Journ. Med. Sciences, July, 1884.
[4] Journ. de Méd. de Paris, March 8, 1884. Amer. Journ. Med. Sciences, July, 1884.

influenced by inunctions. Senator was the first to make experiments of a serious and practical nature on this subject, using the thermometer as a guide. The experiments showed that in the healthy subject the application of fatty matters or varnish caused insignificant modifications of the temperature, but that if fever was present they diminished the temperature to a greater or less extent. Dr. Cobrat, of Lyons, has experimented with lard, cerate, and vaseline in the different acute affections of children, and in every case he obtained an abatement of the general temperature of the body. The thermometer in the rectum often showed a diminution of $1\frac{4}{10}°$ F., sometimes more, but rarely so much as $3\frac{6}{10}°$ F. The maximum abatement was attained in these experiments in about one hour after the inunction, and in from two and a half to three hours the temperature had again risen, while another inunction at this time gave the same results. Dr. Cobrat's experiments were made on children of from one to two years of age. He had occasion also to use this method in the case of a child of three months, and on another thirteen days old. In these cases the abatement was considerable. Under the influence of vaseline the temperature fell $2\frac{8}{10}°$ F. and even $3\frac{6}{10}°$ F. This treatment has been conclusively demonstrated to be free from danger by Schlemann, who used inunctions on scarlet-fever patients for more than four weeks at a time.

SUPPRESSION OF URINE.[1]

Dr. Paxon reports an interesting case of a boy six years of age and exceedingly anæmic, to whom he was called on the 5th of January with the history of not having passed any urine for two days. The catheter was easily passed, but no urine was found in the bladder. This state of affairs continued until the 8th, when the child vomited, and began to have a sleepy appearance. At this time a somewhat fluctuating tumor, the size of a lemon, was discovered in the lumbar region, between the kidneys. Injections of pilocarpine were then given, and on the 9th the tumor disappeared, and the child passed with great difficulty 538 grammes of very dark urine. Two days later suppression for twenty-four hours again occurred, but on the pilocarpine injections again being renewed the secretion of urine became normal, and has since continued to be so.

HYPODERMIC INJECTIONS OF MORPHIA IN CONVULSIONS.[2]

Owing to the well-grounded reluctance of physicians to give subcutaneous injections of morphia to infants it is well to record the cases where such injections have been given in order that we may have some recognized data by which we can determine what is a safe dose at different ages; this is of especial importance in the treatment of those severe eclamptic attacks which at times resist the usual methods of dealing with them. Dr. Clark, of Oswego, New York, reports the case of a girl eighteen months old, who had been in almost unintermitted convulsions for two hours, various remedies producing no effect. The cause of the attack could not be ascertained, but was supposed to be of cerebral origin. One sixth of a grain of morphia sulphate was injected into the arm, and in about two minutes the convulsion ceased entirely, and after a quiet sleep of three or four hours the child awoke apparently well. Twenty-four hours later, after some evidence of the attack returning, the symptoms readily subsided to doses of Dover's powder, in moderate amount, the dose not being stated. In some days, however, the child was found to have her faculty of speech, which was considerably advanced, impaired; since then her appearance has been bright, and her power of speech is constantly improving. Clark believes from his experience that a child of from two to five years old will stand as much opium in proportion to the development at that age of the energies of the nervous system as an adult. He also states that he would unhesitatingly inject a thirty-second of a grain in persistent or recurrent convulsions and repeat in fifteen minutes if necessary. In connection with Clark's cases Dr. Hughson reports the case of a Negro boy, two years of age, who had been sick with a high fever for two days, and who had been in convulsions for an hour; the child was unable to swallow, and was rapidly sinking into a dying condition. A subcutaneous injection of a fifteenth of a grain of the sulphate of morphia was given, and in ten minutes he was quiet, and in twenty minutes asleep; the child had malarial fever. There was no return of the convulsions, and there was complete recovery from the malaria.

RÖTHELN.[3]

Dr. W. A. Edwards, having had an opportunity for observing one hundred and sixty-six cases of what he considered rötheln at the Philadelphia Hospital, presents the following conclusions in a paper on this subject: He places the stage of incubation at about ten days, or rather between ten and twelve days, and the prodromal stage, in which the temperature of thirty per cent. of the cases did not exceed 100° F., at three days. The eruption usually began on the face, and rapidly spread over the body and limbs; it was multiform in character, punctated, and at times macular, more or less confluent, and appearing in patches which were very irregular in outline and size, and the centres of which were much higher in color than any other part. In the eruptive stage the temperature rose from one to three degrees, being in proportion to the extent and severity of the eruption. The eruption lasted on an average five days, and was followed by a desquamation of furfuraceous scales. Sore throat was always present, and the cervical glands were enlarged. Slight albuminuria was present in thirty per cent. of the cases, and in nine cases the albumen was considerable, and was accompanied by dropsy, but no casts were detected. The chief points of differential diagnosis relied on by Dr. Edwards are the eruption appearing on the third day, first on the face, its rapid extension, its gradual shading off into the surrounding skin, its elevation, more particularly in the centre of the patch, which is also the brightest in color, and the point where desquamation first shows itself; also the laryngeal character of the cough and the continual presence of sore throat. He also notes in his cases as of diagnostic value that they never gave rise to or protected from measles or scarlatina. [These cases are reported in order to show that although there may be a disease rötheln *per se*, yet the reports of the symptoms of such disease as laid down by those who have observed it during epidemics vary so much that we are still at a loss to give an exact picture of the disease, as we can of measles and scarlet fever. T. M. R.]

[1] Journ. de Méd. de Paris, December 15, 1883.
[2] Amer. Jour. of Obstetrics, October, 1884.
[3] Amer. Jour. of the Med. Sciences, October, 1884.

ERYSIPELAS.[1]

Erysipelas in infancy, especially if it invades large surfaces, is such a serious disease that the following case is of interest from the fact that the child recovered. An infant ten months old was attacked with redness and swelling of the right labium. The whole vulva soon became greatly swollen and very tender; the disease then extended to the pubes and the abdomen, and invaded every part of the body and limbs, requiring about four days from its appearance at any part until the skin of that part assumed its normal color again. When the erysipelatous inflammation extended to the feet there was marked œdema. The neck and head were also invaded, the eyelids and lips being the last points of attack; even the palms of the hands and soles of the feet were affected. The duration of the attack from its commencement at the vulva to its disappearance at the eyes and mouth was fifteen days. Iron and quinine were given internally.

Hospital Practice and Clinical Memoranda.

COCAINE IN OPHTHALMIC SURGERY.

BY B. JOY JEFFRIES, M. D.

I HAVE been using cocaine for eye operations during the month of November past with a little different result from those some others report. From two to eight per cent. solutions were tried. I judge four per cent. will answer, if, of course, the drug is pure. We can, however, be assured of the effect before operating. The cases were cataract, strabismus, secondary capsule, superficial and deep foreign bodies in cornea and sclerotic, chalazoin, etc. The solution with acid smarts a little, not over thirty seconds, and so does the drug dissolved in hot distilled water. In *thirty more* I have always found the eye anæsthetic. I therefore do not understand the reports of gentlemen here and abroad of having to wait several minutes, etc. In one case of squint the pupil dilated as with atropine. Several drops have to be used for this operation, and hence the effect is probably more marked.

Anæsthesia can readily be kept up by the application of a drop every few minutes. In between twenty and thirty operations I have seen no ill effect to be attributed to the drug. In one third of these I should have used ether. The time and pain saved in the foreign-body cases were well worth saving. If the drug only allowed us to hold the lids apart *continuously* it would be most valuable. The cases of foreign bodies deep in the cornea or sclerotic would have required prolonged use of ether.

After the first incision in chalazoin the solution applied to the wound deadened the pain, but seemingly only as far as it reached. This was also the case in squint operation. Sensation was destroyed by a few drops (four per cent.) in the conjunctival wound. The eye speculum, of course, gives an unpleasant dragging sensation, but its presence is tolerated for several minutes, in fact, as long as the anæsthesia is kept up.

From one to ten drops have proved sufficient for the operations I have done. The expense is nothing compared with the relief from pain and, in children, the fright, etc. *Pulling* on the iris seems to cause pain, and one must be careful on this account. *Cutting* it when drawn out does not. Hence a caution as to Passarant's operation. Enucleation I have not yet done with the drug. I see no reason why we should not use a drop to quiet the eye so as to get a thorough inspection in adult or child.

[1] Amer Jour. of Obstetrics, July, 1884.

Reports of Societies.

FIRST ANNUAL MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION.[2]

SECOND DAY. NIGHT SESSION.

DR. JOHN P. GRAY, of Utica, read a paper entitled

HINTS ON THE PREVENTION OF INSANITY.

Many of the cases of insanity which he met with at the State Asylum at Utica might have been prevented, he thought, if the patients had been properly treated at the first. It was at the very beginning of nervous trouble that such cases should be taken in hand, and he gave suggestions of the methods by which, with judicious dietetic, hygienic, medicinal, and moral treatment, insanity might be warded off in a large number of instances.

DR. STEPHEN SMITH, of New York, read a paper on

EXCISION OF THE KNEE IN PREFERENCE TO AMPUTATION IN CERTAIN DEFORMITIES OF THE LEG,

in which he said that excision was preferable because statistics showed that it was at the least fully as safe as amputation above or below the knee, and that it was a recognized fact that an anchylosed knee was more useful to the patient than any stump.

In the discussion which followed DR. S. W. GROSS, of Philadelphia, who was one of the delegates from the Pennsylvania State Medical Society, described an operation devised by his father for breaking up the adhesions and releasing the patella in bony anchylosis of the knee-joint, so that the limb could be extended until the heel came within one inch of the ground, which was found to be the best position for such patients. DR. MOORE thought that excellent results could be obtained with the osteoclast of M. Robin, of Lyons.

THE CURETTE.

DR. GEORGE T. HARRISON, of New York, read a paper on The Curette: Its Place and its Power in Uterine Therapeutics, in which he described the various conditions of the uterus in which the instrument was applicable and the best method of using it in appropriate cases. Careful preliminary treatment was often required, and it was sometimes necessary to dilate the os uteri with steel instruments; while anæsthesia was advisable in some cases. Antiseptic injections were always to be made, and the patient should be advised to keep her bed for a day or two after the application of the curette.

DR. FREDERICK S. DENNIS, of New York, read a paper on

THE RELATIONS BETWEEN TUBERCULOUS JOINT DISEASES AND GENERAL TUBERCULOSIS.

The tuberculous origin of a large number of cases of joint disease was, in his opinion, clearly established;

[2] Concluded from page 521.

the presence of the bacilli tuberculosis at the seat of disease affording the most positive proof of this. According to the best statistics, only one sixth of the cases of joint disease were attributable to traumatism, while one third of them were associated with scrofula. Scrofula, however, acted only by presenting a suitable soil for the development of tuberculosis. The latter always spread from local foci, and if the local disease could be removed early by operation or otherwise, the development of general tuberculosis might be prevented. He related a case in which he performed amputation for disease of the knee joint in which the presence of the bacilli tuberculosis was demonstrated by Prof. W. H. Welch, and in which the patient, although he recovered well from the operation, afterwards died of acute miliary tuberculosis; almost every organ in the body being the seat of tubercular deposit.

DR. GROSS, in an able address, during which he said that tuberculosis in its action in the system was precisely analogous to cancer, expressed himself in perfect accord with the views of the author of the paper.

DR. WM. T. LUSK, of New York, read a paper on

THE MANAGEMENT OF BREECH CASES IN WHICH THE LOWER EXTREMITIES ARE EXTENDED UPWARD PARALLEL TO THE BODY OF THE CHILD.

If instruments were required he preferred the forceps, especially with Tarnier's tractors, to any other. Next in his estimation stood the fillet, and then the blunt hook. If the child was believed to be dead the cephalotribe was the most useful instrument.

DR. THOMAS H. MANLEY, of New York, read a paper on

WOMEN AS MIDWIVES,

advocating the establishment in New York of training-schools for midwives.

THIRD DAY. MORNING SESSION.

CONGRATULATIONS TO MESSRS. CARNEGIE AND VANDERBILT.

DR. FLINT submitted resolutions, which were unanimously adopted, offering congratulations and thanks on behalf of the interests of science and of humanity, to Messrs. Andrew Carnegie and Wm. H. Vanderbilt for their recent munificent gifts to the cause of medical education.

ELECTION OF OFFICERS.

The following officers for the ensuing year, which were proposed by the Committee on Nominations, were unanimously elected: President, Dr. John P. Gray, of Utica; Vice-Presidents, Drs. W. H. Robb, of Montgomery County, J. G. Orton, of Binghamton, J. C. Green, of Buffalo, and J. C. Hutchinson, of Brooklyn. New members of the Council: 1st District, Dr. Wm. Gillis, of Franklin County; 2d District, Dr. R. C. McEwen, of Rensselaer County; 3d District, Dr. Frederick Hyde, of Cortland County; 4th District, Dr. Darwin Colvin, of Wayne County; 5th District, Dr. J. W. S. Gouley, of New York County. Dr. S. S. Purple was appointed member of the Council at large by the President-elect.

DR. AUSTIN FLINT, SR., of New York, delivered an

ADDRESS ON MEDICINAL AND NON-MEDICINAL THERAPEUTICS,

in which he urged that a common sense view of treatment should be taken; withholding drugs where the healing power of nature could accomplish the recovery of the patient better without their aid, and prescribing them judiciously where clear indications were presented for their use. In the course of his remarks he spoke at some length of the many useful properties of alcohol in disease, and also of the importance of moral influence upon the patient. A satisfactory work on mental therapeutics he thought was a desideratum in medical literature.

Resolutions of sympathy for Dr. L. A. Sayre in his long illness, proposed by DR. FLINT, were adopted, and the President-elect, DR. GRAY, who was introduced by the Chair, then made a brief address.

THIRD DAY. AFTERNOON SESSION.

DR. CASPAR GRISWOLD, of New York, read a paper on

FALSE ALBUMINURIA.

The substances found in the urine that were liable to give a precipitate resembling urine were, phosphates, mucus in such excess that a slight cloud would not be observed, uric acid, peptones, and resinous drugs, like copaiba. Having explained the methods of detecting these he spoke of cases in which albumen was present in the urine but did not come from the kidneys. It was then due to the presence of blood, pus, or prostatic or spermatic fluid.

Papers were read by Dr. Samuel W. Smith, of New York, on The Early Use of the Knife in Nævus of the Cavernous Angioma Variety as contrasted with other Modes of Operation for Removal; by Dr. E. G. Janeway, of New York, on Abscess of the Liver; and by Dr. Austin Flint, Jr., of New York, on Typical Cases of Diabetes Mellitus not before reported.

DR. J. LEWIS SMITH, of New York, read a paper on

DIPHTHERITIC CROUP,

in which he contended that while the pathological appearances were practically identical in croup and in diphtheritic laryngitis and tracheitis, croup could exist without diphtheria, since before the appearance of the latter disease in New York a number of fatal cases of croup were reported each year. His main reliance in the treatment were alkaline inhalations, and to these he had lately been in the habit of adding *tripsin*, which was found largely in extractum pancreatis, and which was an excellent solvent for fibrine.

In the discussion which followed DR. GARRISH described the advantages of bichloride of mercury, DR. ROCHESTER those of insufflation of one part of iodoform to two of bismuth, DR. MOORE those of insufflation of bicarbonate of soda, and DR. REESE those of inhalations of kerosene.

DR. ROSS, of Chemung County, reported a case of

RUPTURE OF THE UTERUS.

It occurred during labor at full term, and the child, membranes, and placenta all escaped into the abdominal cavity together. Dr. Ross believed this to be the second case of the kind on record.

DR. BONTECOU, of Rensselaer County, exhibited

A CASE OF CONSERVATIVE SURGERY.

The patient received a severe gun-shot injury of the shoulder-joint during the war, and resection was afterwards performed, care being taken that as much as possible of the periosteum should be left. The result

was that several inches of the humerus were reformed by nature.

The following papers were read by title: Stretching of the Nasal and Intra-Orbital Nerves in Ciliary Neuralgia, by Dr. Ross, of Chemung County; Organic Disease of the Brain not a Constant Factor in Insanity, by Dr. Clark, of Niagara County; Supporting the Perinæum in the Act of Parturition, by Dr. Hartmann, of New York; and a Case of Gun-Shot Wound of the Stomach, with Recovery, by Dr. Hinton, of New York.

DR. GOULEY, of New York, read a paper on a case of

LIGATURE OF THE PRIMITIVE ILIAC ARTERY FOR DIFFUSE ANEURISM OF THE EXTERNAL ILIAC ARTERY.

Dr. Gouley regretted that he had not applied a second ligature and opened the sac, in which case he thought the patient's life might have been saved. As it was the walls of the sac sloughed, and the man died on the nineteenth day after the operation of pyæmia.

The paper was discussed by Dr. Moore, of Rochester, Dr. Fifield, of Boston, and Dr. Naucrede, of Philadelphia.

The Association then adjourned.

In the evening the Association was entertained at a banquet at the Murray Hill Hotel by the Fellows residing in New York. And on Friday, the 21st, surgical cases and operations, and an exhibition of various forms of bacilli, were seen at Bellevue Hospital, after which there was an excursion to the hospitals and other institutions on Blackwell's, Ward's, and Randall's Island under the charge of the Commissioners of Charities and Correction.

SPECIAL MEETING OF THE BOSTON MEDICAL LIBRARY ASSOCIATION FOR THE PRESENTATION OF A BUST OF THE LATE DR. J. MARION SIMS.

NOVEMBER 25, 1884. DR. OLIVER WENDELL HOLMES, President.

A special meeting of the Boston Medical Library Association was held Tuesday evening, November 25th, to accept the gift of a bronze bust of the late Dr. J. Marion Sims from an anonymous donor. About one hundred members of the Association, as well as some distinguished strangers, were present when the meeting was called to order by the presiding officer, Dr. Holmes.

The presentation of the bust, which was regarded by those present as an admirable likeness of Dr. Sims, — especially in profile and three-quarters view, — was made by Dr. JAMES R. CHADWICK in the following words: —

Mr. President and Members of the Boston Medical Library Association, — Few of you who were present at the exercises held in this city a year ago, to commemorate the hundredth anniversary of the foundation of the Medical School of Harvard University and the dedication of its new building, will have failed to observe upon the platform the close shaven features and the erect form of the world-renowned gynecologist, Dr. J. Marion Sims. He looked the personification of health, so that the news of his sudden death within a month must have filled you all with sorrow. On the day after those ceremonies I had intrusted to my professional care by Dr. Sims a lady whose affection and gratitude he had richly earned by saving her life by a surgical operation and by subsequent assiduous attentions.

A month after his death I was invited to act upon the committee charged with raising a memorial fund with which to erect in Central Park, New York, a statue of Dr. Sims. On asking his former patient to give practical evidence of her oft expressed sense of gratitude to Dr. Sims, I was met by a refusal, on the ground that the form the memorial was to take was ill suited to keep alive his memory among that class of the community — the medical profession — which in future ages would alone be qualified to appreciate his life work at its true value. To meet this not unnatural sentiment I then suggested her placing in this hall, which is likely long to be the place of union of all the medical societies of this city, a bust of Dr. Sims. To this she at once assented and authorized me to order the bronze bust which I now have the honor of presenting to this association with the single condition that the donor's name should not be revealed. The bust was taken about three years ago, as a personal favor, by Dubois, the greatest living French sculptor. It represents Dr. Sims in his prime, and both as a likeness and as a work of art cannot be surpassed by any piece of modern sculpture.

Dr. J. Marion Sims was born in Lancaster District, South Carolina, January 25, 1813. Having received his medical degree from Jefferson College, Philadelphia, in 1834, he practiced his profession in and about Montgomery, Ala., until 1852, when, reduced almost to a skeleton by a persistent chronic diarrhœa, he moved to New York and there established himself. For the remainder of his life he divided his time between New York and Europe, finding a host of patients of the highest social position on both continents ever claiming his professional services. The highest honor was bestowed upon him by the profession of his native country, and the sovereigns of Europe vied with each other in covering him with their coveted decorations. He died suddenly of heart disease in New York on November 13, 1883.

The life work of Dr. Sims is too recent and the merits of his individual achievements too indeterminate to make it proper for us to estimate them now and here. The one salient fact of his career dominates all other considerations, that by his ingenuity, pertinacity, and enthusiasm he did more than any other man in the history of the world to stimulate the study of the diseases peculiar to the female sex and to lead up to their present successful treatment. This is enough to entitle him to the gratitude of our own and of all future generations.

The President, DR. HOLMES, on accepting the gift in behalf of the Association, said: In accepting the gift of the bust of Dr. J. Marion Sims to the Boston Medical Library Association, it is my pleasant duty, as President of that Association, to express our gratitude to the donor for this most acceptable present. Unfortunately, we do not know whom we are to thank. *Stat nominis umbra.* The name of the giver is not to be found on the pedestal but in the shadow of the bronze effigy. We can only draw our bow at a venture and discharge our thanks, trusting that they will find the object of which they are in search.

This bust is well entitled to a place of honor in our library. Dr. Sims stands upon record as one of those benefactors of the race whose contributions to human

welfare are found all along the pages of the history of medicine. They are not emblazoned like the exploits of the conqueror, but they are no less victories. Nor do I know any forms of human suffering which it gladdens us more to relieve than the agonies and the injuries which a mysterious arrangement of nature has made inseparable from the lot of woman, the mother of mankind. It was in this sphere of medical art that Dr. Sims chiefly labored, and to this that he made his invaluable contributions. It is not for me to remind you of his ingenious inventions and operations. They are well known to all who are engaged in treating the diseases of women; that is, not merely specialists, but all family physicians, and they will carry his name to posterity on the list of those who have deserved the grateful remembrance of all mankind.

Let us hope that this bust will not stand alone, but that our profession will send forth many a master of his calling, who shall deserve to have his features reproduced in imperishable shape, and that future benefactors, known or unknown, will emulate the donor whom we thank this evening, and preserve their lineaments in bronze or marble.

DR. GEORGE H. LYMAN, being called upon by the Chair, made the following remarks: —

I respond very cheerfully, Mr. President, to the invitation to say something of Dr. Sims and his work, though all that can be said in a few words has, perhaps, been already uttered by yourself and Dr. Chadwick.

When I reflect upon the complete revolution which has taken place in that particular department of our calling with which Dr. Sims's name is so closely associated, and see so many representative men assembled to do honor to this occasion, it brings back to me very forcibly the beginning of my professional life some forty years ago. Returning from Paris full of zeal and enthusiasm, I brought with me the teachings of Jobert and others who were then beginning to feel their way in gynæcology. Of course I had a speculum or two as a part of my armamentarium. I soon learned, however, that my older friends by no means partook of my enthusiasm, and that unless I wished the reputation of an "irregular," I must be cautious how I encouraged such new-fangled notions. Still later, when ovariotomy was beginning to force its way against all manner of vituperation, a paper was called for as to the circumstances under which such an operation was justifiable! The result, among other things, was a collection of statistics which showed that up to that period only 300 well-authenticated operations had been performed throughout the world, with a mortality of some forty per cent. Now, on the other hand, there are numbers of individual operators who have done more than that, the experience of a few reaching to four or five times that number, and with a mortality varying from five to twenty per cent. Nowadays the use of the speculum, then so much derided, has become as common as the use of the stethoscope, and every well-informed practitioner employs it in suitable cases. The various chronic affections of the uterus and appendages, then so little understood, are now subject to a rational and very successful treatment. All this has gradually led to the recent wonderful advances in peritoneal surgery which fairly constitute a distinct era in the history of medicine, surpassed by nothing, perhaps, unless it be the discovery of ether.

These remarks, Mr. Chairman, will not seem irrelevant when we remember the large contribution to this progress which we owe to the distinguished man to honor whom, by placing his bust in our hall, we meet here to-night. None have done more, few as much, in this special department, and it is well for our own sakes and as a stimulus to those who are to come after, that this admirable memorial of him should be in constant view.

It was my good fortune to have known Dr. Sims for many years, and always as the most charming and genial of men. He was an enthusiast, as all progressive men must be, but he was earnest and honest with it all. His place in the medical history of this century will be, if not that of the originator of modern gynæcology, at least that of one who did the most for its advancement.

The evidences of this high appreciation of him are not confined to his native country. Frequent visits to Europe made his name and fame widespread in England and on the Continent, and honors were showered upon him with a liberal hand. His numerous operations there did much for the honor of American gynæcology, and already its students are so looking to this country for the latest and best information that we may expect them to come to us to find their best facilities among our American teachers.

The meeting adjourned soon after nine o'clock, and an agreeable hour was spent in the examination of autographs and diagrams recently presented, and the discussion of an informal collation.

NEW YORK ACADEMY OF MEDICINE.

THE SURGICAL MANAGEMENT OF RACHITIC DEFORMITIES OF THE LOWER EXTREMITIES.

AT a meeting of the Academy held November 20th, DR. V. P. GIBNEY read a paper on the above subject. Having devoted some introductory remarks to terms and definitions, he expressed the conviction that a fair proportion of cases of the deformities referred to recovered spontaneously. This opinion was based on the results which he had witnessed at the Hospital for Ruptured and Crippled on Forty-second Street, with which he had been connected for a number of years. Between the years 1871 and 1877 255 cases of genu valgum under fourteen years of age had been observed at that institution. Where apparatus was used it consisted of external and internal steel springs, of moderate strength. The larger number of osteotomies were performed in children between the ages of three and eight. One reason why he thought a large number of cases recovered spontaneously was because no adults with such deformities were met with in the city. Of 1005 cases of bow-legs treated at the Forty-second Street Hospital, 997 were under fourteen, three in adults, and five between fourteen and twenty.

He then proceeded to inquire what cases could safely be left to nature. In children under two years he would not advise apparatus or operative interference unless the deformity was extreme. In those between two and three, with a moderate degree of deformity, he would also leave the case to nature; but would examine the condition of the bones very carefully and have the patient kept under close observation. As knock-knee and bow-legs were due, as a rule, to rachitis, medicinal and hygienic would naturally constitute an important element in the treatment, and he had known

cases in which these deformities entirely disappeared during a sojourn in the country.

In case the bones were found to be yielding, he advised the use of manual force under certain circumstances, as, for instance, when parents were too poor to purchase apparatus or too improvident to look after it properly, and when there was little time in which to effect a cure. In one case where the child's parents were poor Italians he had broken the femur, tibia, and fibula on both sides.

In the matter of apparatus he thought Mr. Wm. J. Little stood at the head. He placed no limit upon the efficacy of splints, and undoubtedly cured with them many cases in which most surgeons would have adopted operative procedures. All the springs now in use acted on the principle of the bringing to bear of force against the convexity of the curve at its apex. Having remarked that osteoclasis had never been popular in this country, Dr. Gibney went on to speak of osteotomy, and referred to the brilliant success of McEwen with this operation. At the International Medical Congress at Copenhagen he had reported 820 personal osteotomies, in only eight of which did any suppuration occur. Five of the patients died, but in not one of them was the fatal result due to the operation. Severe arterial hæmorrhage in this operation had been reported by some surgeons, and in one case of his own he had had alarming hæmorrhage from the bone itself. He then described a case in which he had performed it in anterior tibial deformity, a condition in which he said he had never seen any effect produced by apparatus. In this instance the child had worn apparatus for twelve months prior to the operation. Dr. Gibney had performed nine linear osteotomies during the past six months at the New York Polyclynic, and he was in the habit of sending patients home as soon after the operation as the plaster dressing had become hard.

The lessons which he said he had learned in regard to this procedure were as follows: —

(1.) Exaggerate the curvature of deformity.

(2.) Examine the limb at the end of a week to ascertain whether the amount of curvature is the amount desired.

(3.) Do not hesitate to refracture by manual force, if it be necessary.

(4.) In dispensary cases do all the operating that you propose at one sitting.

Strict listerism was to be employed during the operation, and after it three months was not too long for the patient to wear some form of support. McEwen, he thought, had convinced every one that supra-condyloid osteotomy was the only one for *genu valgum*.

Dr. Joseph C. Bryant agreed with Dr. Gibney that there were a large number of cases which could be safely left to nature. No better proof of this could be desired, he thought, than could be afforded by a visit to some of the districts of the city occupied by poor blacks and Italians. The number of cases of such deformities among this class of the population was exceedingly large; yet when those who had suffered from them in childhood had grown up the deformities were usually found to have disappeared. In speaking of the treatment by manual force he said that if in connection with a case of bow-legs he found that the bones were springy, he would endeavor to correct the deformity by forcible pressure upon the point of greatest convexity, repeated two or three times. In one case of sharp anterior tibial curvature he found it necessary to divide the *tendo Achillis*. At the first operation he reduced the deformity two thirds, and then repeating the forcible pressure three times a week, in six weeks he secured a perfectly straight tibia. In a case of this kind he considered manual force better than osteotomy. In regard to osteoclasis he said that he would certainly never use it in the vicinity of a joint, as would be necessary in cases of genu valgum. Osteotomy he considered one of the important advances in surgery of the century. He always performed it with strict antiseptic precautions, and had never seen a drop of pus after any of his operations. It was apparently called for in all cases which had reached a stage where consolidation of the bones had taken place.

Dr. Charles T. Poore thought that rachitical deformities were more common now than formerly. There was no question that in the earlier stages of rachitis the bones could be bent, but he had not seen spontaneous recovery when the bones had become hardened. In regard to osteotomy he thought that the cases which had gone badly (as from hæmorrhage from arteries, etc.) were due, as a rule, to accidents which might have been avoided. In his own cases he had never kept the patient in bed more than five weeks, and at the end of four weeks he usually took off the plaster dressing. He had never seen a recurrence of the deformity. In correcting the deformity of bow-legs he considered the osteoclast better than manual force, care being taken never to fracture the bone within three inches of the condyles. He had had no experience in trying to bend bones without an instrument, and it must be very hard work. In osteotomy he did not use listerism, strictly speaking, and did not dress the wound after McEwen's plan, always endeavoring to secure primary union.

Dr. M. H. Henry said that at the Emigrant's Hospital he had seen a large number of young children, born in Europe, arrive with rachitical deformities of the legs, but under the good hygienic conditions with which they were there surrounded they all seemed to recover without surgical interference. The limit of their stay was five years.

Dr. M. J. Roberts made some extended remarks, in the course of which he said that while many of the cases might recover spontaneously the process was a slow one, and with the aid of appropriate apparatus the cure could be effected in half the time. Every case, therefore, in his opinion, ought to receive treatment if possible. In speaking of osteotomy he described an electro-osteotomy which he had devised, by means of which the femur of a child could be sawn through with perfect ease in two minutes, and of an adult in five minutes.

Dr. Gibney closed the discussion, and in reply to an inquiry from the President, Dr. Barker, said that he had not noticed any difference between the sexes as to frequency or curability of the disease. He had noticed, however, that a good many women who suffered from flat-foot had had bow-legs when they were children.

— The forty-second annual meeting of the New York Society for the Relief of Widows and Orphans of Medical Men was held at the hall of the Academy of Medicine on the evening of November 26th.

CHICAGO MEDICAL SOCIETY.

L. H. MONTGOMERY, M. D., SECRETARY.

STATED meeting, November 10, 1884.
DR. EDMUND ANDREWS reported

TWO CASES OF GASTROSTOMY.

He stated that the term itself was a barbarous one, — an etymological blunder so far as literary usages are concerned, — composed partly of Greek and partly of Latin, the "philological monstrosity" being, apparently, an attempt by its author to enlarge the word gastrotomy, which literally signifies stomach-cutting, and by the addition of a syllable to signify a mouth, so as to make the compound mean a cutting of the stomach to make a mouth, literally a stomach-mouth cutting. He said the word should be gastrostomaty, and even then there would be nothing left in the compound to signify the "cutting;" therefore to express the full meaning of "stomach-mouth-cutting" would require the form gastro-stomatomy, a term whose length and harshness of sound is sufficient for its condemnation. The following is a brief synopsis of the balance of the paper.

CASE I. was a little girl, aged six years, who swallowed some concentrated lye several months previously, cauterizing the lower part of the œsophagus, and gradually inducing a stricture. Dr. E. P. Cook, of Mendota, Ill., dilated the stricture, after which the child was sent home greatly improved, but after leaving his care she relapsed, and was then placed in care of the writer. Upon her arrival it was ascertained that she had been unable to swallow anything for a number of days. Dilatation was essayed, and the patient improved for a time, regaining a partial power at least of swallowing liquid food. However, it was soon perceived that the advantage thus gained could not be maintained, and after faithful trial it became evident that the little one was gradually starving. So-called gastrostomy was then performed in a room which had been sprayed for an hour with carbolic acid, but the spray was not permitted to touch the peritonæum. The usual incision was made in the hypochondrium from the xyphoid cartilage downward and to the patient's left. The colon was found partly in the way, but it was easily pushed downward. The stomach was then drawn out with long toothed forceps. The viscus was identified by the relations of the gastro-epiploica vein, and secured to the abdominal wall by a long suture on each side, as it was feared starvation would ensue were not this plan pursued, and the patient's life be still further jeopardized. The stomach was opened at once, and its edges *sewed* closely to the skin all around the incision. There was a good deal of shock, but reaction occurred, and union by first intention followed without difficulty and with no peritonitis. Peptonized food was regularly inserted, and on inspection was found perfectly digested except when meat was used. This, whether raw or cooked, would be ejected from the wound unchanged even when retained twenty-four hours. For some days the patient improved, but it soon became evident that most of the food, though digested, did not pass through the pylorus. It seemed that this orifice of the stomach required a little pressure to unfold it, and that whenever the stomach contracted for the purpose the chyme escaped by the fistula into the dressings, and did not pass on into the intestines. A rubber pad tight enough to stop the outflow could not be tolerated. A soft rubber tube with a flange and valve was substituted, in which the inner disc could be adjusted to the inner wall of the stomach; then by clamping the tube outside of the outer disk to the wall of the abdomen a perfect valve was obtained which prevented leakage. The effect of the inner disk on the walls of the stomach was feared at first, but it produced no perceptible irritation. The opening in the stomach was purposely made pretty large, the surgeon hoping at a future time to introduce a finger upward into the lower end of the œsophagus, and then by pushing down upon it to succeed in restoring the natural passage. As above stated, the valve retained the food perfectly, and the patient took an abundance, and even learned to know when she was hungry, and to call for her meals. The improvement was but temporary, however, and she began slowly to fail again without obvious cause. The power of assimilation seemed to have exhausted itself. She constantly grew weaker, and died the thirty-sixth day after the operation.

CASE II. An adult male patient. Six months previously he swallowed some caustic ammonia, producing a contracting ulcer of the lower part of the œsophagus. In September last he placed himself in the care of the writer, having been unable to swallow anything for some days. By a persistent use of bougies the stricture was dilated, and the power to swallow liquid food restored. He then returned home, having learned to introduce the bougie himself. In time, however, he lost the art of passing the instrument, and in October returned in the same condition as before. Diligent trials to dilate the stricture a second time gained only a slight temporary power of passing small quantities of liquids a day or two at a time, and within a week or so it was perceived that his progress was downward, and that he was slowly starving. Moreover, the points of the bougies seemed to be creating a local inflammation in the right lung, as if making a false passage in that direction. To continue their use, therefore, was not deemed judicious, and an operation was decided on at once. The operation was the same as in the former case except that the opening was smaller. The same difficulty of regurgitation of the food occurred, and was controlled by a similar valve. The patient was doing well thirty-two days after the operation, and bids fair to recover.

The statistics of this operation are not very encouraging. Of 207 recorded cases forty were for cicatricial stricture of the œsophagus like those above cited. Of these forty twenty-one died. Yet when no other hope of life or relief is offered, an operation which gives one chance in two is a great benefit.

EXCISION OF THE RECTUM

was the next subject, of which DR. ANDREWS reported two cases, at present under treatment.

CASE I. An epithelioma not involving the border of the anus. In operating the entire external sphincter was saved. The incision was carried from an inch in front of the anus back to the coccyx, opening the anus antero-posteriorly, and cutting off the gut just above the verge. After dissecting it upward a little and tying numerous vessels the rectum was separated from the pelvic chamber mainly by the finger, and the *tube* divided about three inches upward just above the

top of the growth. There was no shock and not much subsequent pain or inflammation.

CASE II. was almost exactly a repetition of the first except that the verge of the anus was involved in the disease, and consequently was dissected out with the rest. Both patients were doing well and very comfortable at the time of the report.

Statistics. The statistics are much like those of epithelioma elsewhere. Billroth, of Vienna, thinks he permanently saves about one third of the cases. Of 608 collected cases 140 died of the operation, and of 100 of those who survived the operation, whose accounts were traced up, thirty-one were doing well at the end of one year, and seventeen were alive and well with no return at the end of three years.

LITHOLOPAXY.

DR. ANDREWS reported having operated twenty-three times with one death. He is confident that the plan he pursued of keeping the nerves of the bladder benumbed during the operation by filling it with carbolized water tends greatly to prevent both shock and inflammation. He thought it worthy of inquiry whether the remarkable local anæsthetizing properties of the new agent, cocaine, would not enable us to operate without ether and without producing shock. . . .

A NEW INSTRUMENT FOR OPERATING ON VARICOCELE

was the next topic discussed by Dr. Andrews. Operations for destroying the veins in varicocele have occasionally produced death, and in other cases resulted in neuralgic scrotum, with or without atrophy of the testicle. Many surgeons have followed the lead of Prof. Frank Hamilton in preferring Sir Astley Cooper's plan of shortening the scrotum sufficiently to make it its own suspensory bag. This operation is vexatious because the imperfect character of the old-fashioned adhesive plasters rendered it difficult to support the sutures sufficiently to secure union by first intention. Now that we have the rubber plaster, which never lets go its grip, we can cut the scrotum very short and still hold the wound firmly together and secure a triumphant success. Sundry clamps have been invented to hold the skin of the scrotum firmly while the surgeon cut it off and sewed it up; the evil of the clamp is that it compresses the arteries so that after cutting away the pouch the surgeon is unable to find and ligate the vessels. If he sews up the wound without attending to this point, experience shows that after the clamp is removed hæmorrhage often takes place inside the scrotum, distending it with clot and forcing open the wound, thus delaying the cure. To meet this difficulty Dr. Andrews has devised a kind of "varicocele bow," which he exhibited and described as follows: It consists of two curved parallel bows connected at the ends and inclosing a slot three eighths of an inch wide between them. Twelve holes are drilled through the bars of a size to admit ordinary pins. The surgeon draws the scrotum through the slot (having the concave border towards the base of the scrotum) to such a distance as he deems sufficient, secures it there by inserting, one by one, as many pins as he finds necessary to hold the pouch securely. He then cuts off the scrotum outside the convex border of the bars. As the scrotum is not pinched by the instrument the blood spouts freely, especially from the artery of the raphe. The operator can carefully and deliberately secure every bleeding point, which being accomplished he sews the cut edges together, and then drawing out the pins removes the bow and applies his plasters. The neatness and despatch of the operation are thus greatly enhanced.

REPORT OF COMMITTEE ON NATIONAL SANITATION.

DR. JOHN BARTLETT, on behalf of the Committee on National Sanitation, presented the following preamble and resolutions: —

MR. PRESIDENT, — The committee appointed at the meeting of this Society September 15, 1884, to consider and report upon a series of resolutions presented by Dr. L. H. Montgomery, having reference to national sanitary matters, respectfully report the following preamble and resolutions as suitable to be adopted: —

Whereas, Experience has firmly established the fact that the ravages of certain infectious and contagious diseases may be in good measure prevented, controlled, or arrested by the enforcement of suitable sanitary regulations; and

Whereas, The United States is constantly exposed to the importation of disease from foreign countries, and, because of the facility and rapidity of inter-state transit, to the rapid spread of infection once finding lodgment on our borders; and

Whereas, This exposure, because of the prevalence of cholera in Europe, is just now unusually great; and

Whereas, The facts are that matters of sanitation are in some of the States of this Union entirely neglected, while in others they are simply taken cognizance of by the appointments of Boards of Health, in their functions advisory only, and not clothed with powers of authoritative action; and

Whereas, Either of these State Boards of Health, as now constituted, may prove derelict or inefficient in its duties, or act without concert with, or even in antagonism to, the Boards of other States; and

Wheaeas, The exigencies occasioned by the appearance of violent epidemics demand organized means for the prompt recognition of the outbreak of disease, and vested authority, limited in its area by the boundaries of the country only, to take such immediate steps in matters of protection as vaccination, isolation, quarantine, etc., as experience has taught to be useful; and

Whereas, No national authority in sanitary matters now exists; therefore

Resolved, That it is the judgment of the Chicago Medical Society that the sanitary interests of the United States demand the establishment of a national health authority, which shall have for its main functions the detection of pestilential and epidemic diseases, and the enforcement, where necessary, of sanitary regulations tending to prevent, to abate, or to suppress them.

Resolved, That as a step toward the consummation of the idea suggested in the foregoing resolution a committee of three be appointed by this Society to collate facts tending to show the usefulness and necessity of a national sanitary organization, and to compile the same in such form as may be available for disseminating information upon, and creating an interest in, national sanitary legislation.

Resolved, That the said committee be empowered and instructed to urge the importance of national sanitary legislation upon the attention of the congressional delegation from Illinois, and fittingly to present the subject to the representatives of the people in both houses of Congress.

O. C. DE WOLF, *Chairman.*

Upon motion, duly seconded, the resolutions were voted upon *seriatim*, and were carried unanimously, when they were again read. The suggestions embodied in the report were unanimously adopted, and Drs. John Bartlett, R. E. Starkweather, and J. H. Hollister were appointed members of the committee.

After which two papers were read on Hydrochlorate of Cocaine.

DR. BOERNE BETTMAN reported some cases illustrating the use of

HYDROCHLORATE OF COCAINE AS A LOCAL ANÆSTHETIC.

CASE I. Oloff D., aged twenty-two, consulted the writer for a stricture of the nasal duct. A few drops

of a solution of cocaine produced complete anæsthesia in three minutes. A Weber's knife was introduced into the canaliculus, shoved forward into the sac, and the duct slit open with but trifling pain to the patient. With an Auel's syringe a few drops of cocaine were injected into the nose. Five minutes later the firm stricture was forced with a Bowman's probe. The pain, according to the patient's statement, was seventy-five per cent. less than that experienced five years ago when subjected to a similar operation. Anæsthesia lasted fifteen minutes.

CASE II. A piece of steel had been imbedded in the cornea of a policeman for two days. The eye was extremely sensitive. Two drops of cocaine benumbed the eye in three minutes. The digging out of the mote with a spud was painless.

CASE III. Mr. M. complained of severe earache, produced by an otitis media acuta purulenta. The introduction of a cotton holder or speculum was not permitted. Instillation of two drops of cocaine was followed by almost immediate cessation of pain, when the ear could be manipulated without the slightest annoyance to the patient.

CASE IV. The most striking results were obtained in the case of Mrs. T., on whose right eye an operation for cataract was performed. Several drops of cocaine applied every few minutes produced complete anæsthesia in ten minutes. The corneal section was made without the patient being aware of the fact. The only step in the operation which caused the slightest pain was excision of the iris. At this stage, when questioned about the sensation, the patient remarked that it felt as if a pin were pricking her.

The physiological and therapeutical effects of this remedy may be tabulated as follows: —

First. Hydrochlorate of cocaine is a powerful local anæsthetic, not penetrating in nature, rapid in its effects, which, however, are only temporary.

Second. It is a mydriatic, the effect of which is regulated by the strength of the solution.

Third. It produces paralysis of the ciliary muscle, the near point receding from the eye, distant vision is not influenced.

Fourth. By virtue of its benumbing powers it may be classified as an anodyne.

DR. JEFFERSON BETTMAN reported a case of

ASTHMA NERVOSUM,

illustrating the applicability of muriate of cocaine in nasal surgery: —

Dr. K., a physician, had been under treatment suffering from asthma nervosum. The asthma is purely reflex, induced by great hypertrophy of both inferior turbinated bones, excepting an occasional obstruction to free nasal respiration, but little discomfort is experienced during the day. A recumbent position, the warmth of the bedding, are sufficient to produce a reflex turgescence of the lower turbinated bones, a subsequent serous discharge, and, to complete the clinical picture, a culminating violent attack of asthma. The nares are extraordinarily hypersensitive. The introduction of any instrument into the nose is exquisitely painful. Previous treatment had consisted in applications of the galvano-cautery to reduce the volume of the erectile tissue in the nose. The abnormal sensitiveness would only permit of superficial cauterizations, so the results obtained were but partially successful. On the 8th of the present month the writer resolved to apply the muriate of cocaine prior to cauterization. A pledget of cotton of sufficient size was soaked with fifteen drops of a four per cent. solution of the remedy and placed in the inferior meatus of the left nostril. At the expiration of ten minutes the nostril was perfectly anæsthetized. At the end of a quarter of an hour the plug was removed and the parts thoroughly cauterized with a sharp-cutting electrode. The period of application exceeded three seconds and produced but a minimum degree of pain. In fact, the discomfort was so trifling that the hitherto sensitive colleague cheerfully submitted to a second vigorous application at the same sitting. After a period of twenty-five minutes sensibility of the parts was fully restored.

At a very late hour a motion prevailed that the Society do now adjourn.

Recent Literature.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D. Philadelphia: Henry C. Lea's Son & Co. 1884. Fifth American from the Sixth Revised and Enlarged English Edition.

With the existence of so much better books on the subject as Ziegler's text-book and Coat's Manual of Pathological Anatomy it is not at first sight evident why another edition of the above work is needed. All that can be said in its favor is that the style in which it is written is quite easy reading, probably from the diffuse way in which the subject is treated. The author has tried to infuse new life into it by having some chapters written by a colleague, Mr. Stanley Boyd, those on Tumors, Degeneration, Septicæmia and Pyæmia, and Vegetable Parasites. Even with a new handle and a new blade we fear that it will always be the same knife. The publishers have done well in rendering the volume attractive.

A Text-Book of Pathological Anatomy and Pathogenesis. By ERNST ZIEGLER. Translated from the German by DONALD MACALLISTER, M. A., M. B. Part II. Special Pathological Anatomy. Sections I.–VIII. London: Macmillan & Co. 1884.

We are glad to welcome the continuation of Professor Ziegler's valuable work. The first part, treating of general pathology, has already been noticed. This volume treats of the Changes in the Blood and Lymph, the Vascular Mechanism, the Spleen and Lymphatic Glands, the Serous Membranes, the Skin, the Mucous Membranes, the Alimentary Tract, and the Liver and Pancreas.

The descriptions are concise, perhaps too much so for easy reading, but abundant cross reference renders them very intelligible, and at the same time does away with a great deal of repetition. The accounts are further augmented by an index to the principal articles, from which a more extended knowledge of each particular subject can be obtained by one desiring to do so. The author is, perhaps, inclined to be a little positive in his statements, but he at least writes as one who has seen and studied most of the changes referred to, and therefore has a right to an opinion of his own. The text is well illustrated by numerous good wood-

cuts of microscopic appearances, most of which are original. There is certainly nothing better in English than this, and thanks are again due to Mr. Macallister for his admirable translation, and a speedy completion of the work is greatly to be wished. The name of the publishers is the guarantee of a handsome volume.

Medical and Surgical Journal.

THURSDAY, DECEMBER 4, 1884.

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THE ACCOUNTABILITY OF MEDICAL MEN. COMMONWEALTH *vs.* FRANKLIN PIERCE.

"The accountability of medical men has been a fruitful source of lego-medical discussion, and in early times was the subject of much variety of judicial, as it is still of popular, sentiment." Thus reads the first sentence of the chapter on common law practice in criminal prosecutions for medical malpractice in Wharton and Stillé's Medical Jurisprudence. It has had a forcible illustration lately in the case of the Commonwealth *vs.* Franklin Pierce before the Supreme Judicial Court of Massachusetts.

The defendant was tried last May before the Superior Court of Worcester County on an indictment for manslaughter, and the jury returned a verdict of guilty on evidence that he publicly practiced as a physician, and being called to attend a sick woman caused her, with her consent, to be kept wrapped in flannels saturated with kerosene oil for three days, more or less, by means of which she died. There was evidence that he had made similar applications with favorable results in other cases, but that in one the effect had been to blister and burn the flesh, as in the present case.

The defendant alleged exceptions to rulings and refusals to rule of the presiding judge of the Superior Court, relying largely upon the famous case of Commonwealth *vs.* Thompson, decided in 1809 (6 Mass. 134). Thompson was the originator of the system of practice which, under the name of Thompsonianism, gained so much notoriety in the earlier part of this century. The case for which he was indicted was as aggravated an instance of reckless malpractice with a fatal result as can be found in the annals of any court. Yet he was acquitted, the judicial ruling emanating from no less a worthy than Chief Justice Parsons, who held that to constitute manslaughter the killing must have been the result of some unlawful act, but, there being no law prohibiting any man from prescribing for a sick person, with his consent, if he honestly intend to cure him by his prescription, the prisoner should be acquitted.

Since 1830, certainly, the case of Thompson has not generally been held to be sound law, and, moreover, doubt has been thrown upon the exactness of the report of the judicial ruling.

Wharton and Stillé give the following propositions representing the law as deduced from the leading cases in this country and England: —

(1.) If the defendant acted honestly, and used his best skill to cure, and it does not appear that he thrust himself in the place of a competent person, it makes no difference whether he was at the time a regular physician or surgeon or not. (2.) To constitute guilt, gross ignorance or negligence must be proved. (3.) A defendant who, with competent knowledge, makes a mistake in a remedy, is not answerable; but it is otherwise when a violent remedy, shown to have occasioned death, is administered by a person grossly ignorant but with average capacity, in which case malice is presumed in the same way that it is presumed when a man *compos mentis* lets loose a mad bull into a thoroughfare, or casts down a log of wood on a crowd. (4.) Where competent medical aid can be had, the application of violent remedies, by an ignorant person, though with the best motives, involves him in criminal responsibility. (5.) Express malice, or an intent to commit a personal or social wrong, makes the practitioner criminally responsible in all cases of mischief.

In presenting the case of the Commonwealth against Pierce the Attorney General remarked: At common law, a private person guilty of gross negligence in the performance of a lawful act is guilty of manslaughter; the ordinary person is so guilty; is he then to be acquitted the moment he assumes the position of surgeon or physician? "Licensed to kill," as the old jest goes? Medicine is a useful profession — so is a switchman's, a pilot's, a policeman's; and a pilot's or captain's is not judged by the knowledge of an ordinary man of the rocks and shoals and other dangers of navigation; but by that ordinarily possessed by pilots and captains. An ordinary man does not know how to turn a switch; but a switchman is bound to turn it the right way; if he does not do so, it is manslaughter.

Judge Holmes delivered the decision of the Supreme Court, sustaining the rulings of the justice of the Superior Court and overruling the defendant's exceptions. The opinion as delivered was substantially as follows: —

The defendant has been found guilty of manslaughter on evidence that he publicly practiced as a physician, and, being called to attend a sick woman, caused her, with her consent, to be kept in flannels saturated with kerosene for three days, more or less, by reason of which she died. There was evidence that he had made similar applications with favorable results in other cases, but that in one the effect had been to blister and burn the flesh as in the present case. The main questions which have been argued before us are raised by the fifth and sixth rulings requested on behalf of the defendant, but refused by the court, and by the instructions given upon the same matter. The fifth request was, substantially, that the defendant must have so much knowledge or probable information of the fatal tendency of the prescription that the death may be reasonably presumed by the jury to be the effect of obstinate, willful rashness, and not of an honest intent and expectation to cure. The sixth re-

quest was as follows. "If the defendant made the prescription with an honest purpose and intent to cure the deceased, he is not guilty of this offense, however gross his ignorance of the quality and tendency of the remedy prescribed or of the nature of the disease, or of both." The court instructed the jury that it was not necessary to show an evil intent; that if by gross and reckless negligence he caused the death he is guilty of culpable homicide; that the question is whether the kerosene, if it was the cause of the death, either in its original application, renewal, or continuance, was applied as the result of foolhardy presumption or gross negligence on the part of the defendant, and that the defendant was to be tried by no other or higher standard of skill or learning than that which he necessarily assumed in treating her; that he was able to do so without gross recklessness or foolhardy presumption in making it. In other words, that the defendant's duty was not enhanced by any express or implied contract, but that he was bound at his peril to do no grossly reckless act, when he intermeddled with the person of another, in the absence of any emergency or other exceptional circumstances. The defendant relies on the case of the Commonwealth *vs.* Thompson, 6 Mass., 134, 1809, from which his fifth request is quoted. His argument is based on another quotation from the same opinion, which recites: "To constitute manslaughter the killing must have been a consequence of some unlawful act. Now there is no law which prohibits any man from prescribing for a sick person with his consent, if he honestly intends to cure him by his prescription." This language is ambiguous, and we must begin by disposing of a doubt to which it might give rise. If it means that the killing must be the consequence of an act which is unlawful for independent reasons, apart from its likelihood to kill, it is wrong. Such may once have been the law, but for a long time it has been just as fully, and, we may add, much more willingly, recognized, that a man may commit murder or manslaughter by doing otherwise lawful acts recklessly, as that he may be doing acts unlawfully for independent reasons, from which death actually ensues. But recklessness in a moral sense means a certain state of consciousness with reference to the consequences of one's acts, or the actual condition of the individual's mind with regard to the consequences, as distinguished from mere knowledge of present or past acts or circumstances, from which some one or everybody else might be led to anticipate or apprehend them if the supposed act was done.

The questions raised by the exceptions are whether an actual good intent and the expectations of good results are an absolute justification of acts, however foolhardy, when judged by the external standard, and whether the defendant's ignorance of the tendencies of kerosene administered as it was will excuse the administration of it. If the principle which has been established both for murder and manslaughter is adhered to, the defendant's intention to produce the opposite result from that which came to pass leaves him in the same position with regard to the present charge that he would have been in if he had had no intention at all in the matter. We think that the principle must be adhered to where, as here, the assumption to act as a physician was uncalled for by any sudden emergency, and no exceptional circumstances are shown, that we cannot recognize a privilege to do acts manifestly endangering human life on the ground of good intention alone. We have implied, however, in what we have said, and it is undoubtedly true as a general proposition, that a man's liability for his acts is determined by their tendency known to him, and not by their tendency under all circumstances actually affecting the result, whether known or unknown. The using of the thing must be dangerous according to common experience. If the danger is due to the specific tendencies of the individual, and is not characteristic of the class to which it belongs, a person to be made liable must have notice of some past experience. One cannot escape on the ground that he has less than the common experience. Common experience is necessary to the man of ordinary prudence, and when a man assumes to act as the defendant did he must have it (common experience) at his peril. When the defendant applied kerosene to the person of the deceased, in a way which the jury have found to have been reckless, or, in other words, seriously and unreasonably endangering life according to common experience, he did an act which his patient could not justify by her consent, and which, therefore, was an assault, notwithstanding that consent.

— Dr. C. P. Bancroft, Superintendent of the Concord, N. H., Insane Asylum, who was severely beaten on the head by a patient, is recovering from his injuries.

"TRICKS AND MANNERS."

IN previous numbers of the JOURNAL we have studied some of the words and curious expressions of our patients and found them interesting: their actions are equally deserving of regard. One who sits day after day in a hospital out-patient department watching a number of people who pass rapidly before him, each with his tale of woe, finds certain little peculiarities in their actions constantly recurring. By far the greater number of his patients grow confidential and urge their chair towards him. The patient's chair in the surgical room of the old Boston Dispensary will occur to those of our readers who were familiar with it. It was fastened to the floor, and the surgeon sat in front of it in a chair on casters so that he was able to approach or recede from his patient as circumstances dictated. With hardly an exception the patient as he sat down in the chair would give it a hitch to draw closer to the surgeon, and many, not satisfied with a single attempt, would try again and again to move it. In process of time the seat of the chair was actually torn away from the legs by these many wrenches. In other similar positions the surgeon's foot is almost automatically brought against the round of the patient's chair when this hitching process begins. This hitch is the result usually of a desire to pour into the doctor's private ear the object of the visit, or sometimes to give a better opportunity for close examination, but even when no reason exists the hitch is a moderately certain preliminary to a conversation. In extreme cases, when secrecy seems particularly desirable, the patient follows up the hitch by rising and whispering in the doctor's ear. Only particularly dirty patients who are perfumed with sweat, gin, and onions ever go to such a length.

There is an instinctive action on the part of many patients to feel with their own hands the spot which the doctor is exploring. Almost inevitably the patient's hands thus follow the doctor's in feeling for an enlarged gland in the groin, and only a little less certainly in searching for a broken rib. A similar fatality attends the putting of the double stethoscope to one's ears. It is a signal for the patient to open his mouth, and the most silent patient becomes garrulous under the stimulation.

To ask a patient to lie upon his back is, in a very large number of cases, followed by his turning his back upwards. The mention of his back gives the idea that that is the part of his body the doctor desires to see, and with great readiness to assist in the examination he pays no attention to the words that accompany it. Such excessive zeal to assist the doctor shows itself in many other ways. In examining a joint, unless movement is painful, the patient will often assist in a manner that renders the examination futile. But when it is desirable to examine the corresponding healthy joint for the sake of comparison even the too willing patient will insist that there is nothing the matter with that joint, and exposes it very unwillingly, and only after explanation of the reasons for its examination.

The mother who brings her child for examination

gives sometimes no little trouble by insisting on helping it when the doctor is specially desirous of seeing how it walks and moves. He throws an object on the floor, and asks the child to pick it up; the mother picks it up and tells the child to give it to the doctor. He asks the child to lie down, and the mother feels that she must help. Sometimes this extra help is of great service in showing the daily influence to which the child is subjected, but not of much use in helping the surgeon to diagnosticate the physical disabilities of the child. Children themselves are often a plague, and nowhere does a doctor's tact show itself more plainly than in his ability to gain their confidence and coöperation. To recognize the earliest stage of joint disease in a young child without its own assistance is almost an impossibility. Such coöperation is usually quite as easily obtained as that of grown people, but there are children — bless 'em — that practically refuse to do anything but yell. The rebel yell of rebellion days pales beside that unreasoning, unmeaning cry which increases when coaxed to stop, becomes frightful under threats, and continues unabated when left to follow its own sweet will.

It is always an annoyance and one only too frequently repeated to hear a child told that the doctor will carry him off or do some horrible act of mutilation if he does not behave. Parents who thus use the doctor as a bogy to frighten their little ones into good behavior can hardly blame the doctor if he fails to overcome in a single visit the prejudices they have so carefully implanted.

To the doctor the tongue proves itself most literally an unruly member. Patients will protrude but its tip when asked to show it, and push it out to its fullest extent when they open their mouths for inspection of the fauces, and on the application of a spatula it is sure to arch itself like a cat's back at the sight of a strange dog.

One of the most troublesome traits is the tendency to misquote previous opinions. We know how very difficult it is to repeat any conversation, but a peculiar difficulty seems to attach itself to the remarks of physicians. Doctors learn to be very skeptical in regard to the opinions attributed to their colleagues, especially after such an experience as that of a physician at a charitable institution who was consulted, not long ago, by a mother in behalf of her young child. In giving the history of the case she said that the little one had been sick almost since its birth; that a year ago she consulted Dr. ——, mentioning the name of the man with whom she was talking, but whom she had failed to recognize, and "he said the child had n't any inwards."

Another troublesome habit is that of attributing every untoward event to the medicine or at least in some way to the doctor. This is offset in great measure by similarly attributing to him favorable results to which he knows he can establish no valid claim. The two errors may be left to balance each other in establishing his reputation with the public, but his unwillingness to accept the responsibility in the first case ought to assist him in distinguishing in his own mind between *post* and *propter* in the second case.

THE SINGULAR MORTALITY REPORTED FROM WESTERN VIRGINIA AND EASTERN KENTUCKY.

A singular and very fatal disorder has been devastating the sparsely settled mountainous counties of Southwestern Virginia and Southeastern Kentucky. The afflicted district is said to embrace a strip of country about eighty miles long by seventy miles wide, extending through the portions of Lee and Wise Counties in Virginia, and those of Knox, Harlan, Letcher, and Pike Counties in Kentucky, situated upon the slopes of the Cumberland Mountains. A number of rivers have their source here, the Cumberland, the Kentucky, the Licking, and the Big Sandy flowing into the Ohio River. It is a region in which the railroad and the telegraph are unknown, and the inhabitants are dependent for a somewhat precarious livelihood upon the resources of a primitive agriculture.

It was lately reported that no rain had fallen in this region, until very recently, for several months; the limited crops had been a failure, the live stock were dying upon the hills, and the unfortunate inhabitants were themselves falling a sacrifice to a rapidly fatal malady of a choleraic character. This intelligence was supposed at first to be of a rather sensational character, but later, and apparently trustworthy, accounts tend to confirm the worst of what had been previously reported. It is now estimated that fully 1000 people have died of the disorder.

The water through all this district has been extremely low, the streams and springs on the mountain sides being nearly dried up. The little water which could be had, and which the inhabitants have been forced to drink, has been very strongly impregnated with mineral substances, and perhaps also with decaying vegetation. As yet we have seen no accurate analysis of it. The malady as manifesting itself is accompanied, it is said, by intense thirst, by griping pains in the abdomen, and frequent profuse discharges from the bowels. In many instances those attacked have died in a few hours, but the usual course has been about two days, and the termination is generally a fatal one.

It is probable that the usual rains of this season of the year will put an end to the trouble, but further and more accurate details will be awaited with interest.

THE QUARANTINE CONFERENCE IN NEW YORK.

On the 20th of November a conference of sanitary officers was held at the office of the New York Board of Health, at the invitation of Dr. Wm. H. Smith, Health Officer of the Port, to discuss, first, the measures necessary to prevent the introduction of Asiatic cholera at New York and contiguous ports, and, second, the measures necessary to prevent the extension of cholera should it develop in the seaboard cities. Among those present were most of the members of the New York State Board of Health, and represen-

tatives from the health boards of New York, Brooklyn, Boston, Buffalo, and New Haven. Resolutions were passed maintaining that a vigilant quarantine of sanitation at our maritime quarantines *ought* to prevent the introduction of cholera, and setting forth the measures which those present believed necessary to secure a successful quarantine against the disease. As to the prevention of the spread of cholera if once introduced, it was thought that measures to this end must be left to local authorities throughout the country; but a resolution was adopted calling attention to the need of an active sanitary administration on the part of all railroad and other transportation companies concerning the condition of cars, stations, latrines, etc. The chairman was requested to present a copy of the resolutions to the National Conference of the State Boards of Health which is to meet on December 10th, at Washington. Resolutions were also adopted requesting the Legislature to place in the hands of the New York quarantine authorities full powers for meeting the special dangers of the invasion of cholera by such appliances as science has proved to be necessary.

These last resolutions contained a provision that they should be presented to the Governor and Legislature under the authority of the State Board of Health, and at the quarterly meeting of the latter Board, which was held the day following, November 21st, the more fully to carry out the recommendations of the conference, the following was adopted: —

"*Whereas*, The State Board of Health has visited the quarantine buildings in the Lower Bay of New York, and is convinced of the urgent need of repairs, to make them available, if cholera should arrive on vessels entering the port, therefore, be it

"*Resolved*, That this Board recommend to his Excellency the Governor, and the Legislature, such consideration of the resolutions of the conference as will secure the means for the necessary repairs at the earliest possible moment."

MEDICAL NOTES.

— The data obtained by the Anthropometric Committee of the British Association for the Advancement of Science reveal some curious facts respecting the influence of occupation upon physical development. As a rule, the inhabitants of the country are taller and heavier than those of the large towns; London is, however, an exception, and seems to exert an attraction that draws in the more vigorous part of the country population. The police of that city are, as a rule, nearly as tall as the laborers of Galloway — the tallest of Britons — and twelve pounds heavier. The members of the Fire Brigade, who need not be so solid, but are expected to be active, are two and a half inches shorter and twenty-five pounds lighter than the policemen. Athletes average five feet eight and one third inches in height, and only about one hundred and forty-three pounds in weight; from which it is inferred that the majority of the population carry from ten to twenty pounds weight which they would not carry if they were in the highest physical condition. The Fellows of the Royal Society — representing a class of most prominent intellectual gifts — are among the tallest of the race, averaging five feet nine inches and three quarters. Perhaps it is an evidence of nature's allegiance to the supremacy of Law that the criminal class are forty-five pounds lighter than the police and four inches and a half shorter; and they are eighteen pounds lighter and two inches shorter than the average of the population. Lunatics are about as short as the criminals, but heavier. In men of the same occupation belonging to different races the influence of race appears to be predominant over that of occupation.

— The dialects of the respective branches of science are becoming, with the progress of knowledge and of nomenclature, more and more unintelligible to each other. We find, for instance, in an English paper the following sentence from a recently published paper by Sir William Thomson, the eminent physicist: "The stream-lines are as represented in the diagram, in which the region of translational-velocity greater than wave-propagational velocity is separated from the region of translational-velocity less than wave-propagational velocity by a cat's-eye border pattern of elliptic whirls." Mr. Herbert Spencer's famous "Formula of Evolution" is as follows: "Evolution is a change from an indefinite, incoherent, homogeneity to a definite, coherent heterogeneity, through continuous differentiations and integrations." Mr. Kirkman, the mathematician, has rendered this formula into a shape which is, after all, less uncouth (in the true meaning of that word), to wit: "Evolution is a change from a nobowish, untalkaboutable allalikeness to a somehowish, and in-general-talkaboutable not-all-alikeness, by continuous something-elseifications and stick-togetherations."

NEW YORK.

— At the last meeting of the County Medical Society, held November 23d, Dr. S. O. Vanderpoel retired from the presidency after making a brief address, in which he reviewed the work of the past year. The new president, Dr. Daniel Lewis, then made his inaugural address, in the course of which he spoke of the importance of carrying through the suit now pending against the disreputable eclectic medical college, and advocated the establishment of State examining and licensing boards (the latter also to have the power of revoking licenses) for the medical profession. The standing committees for the year were appointed, with Dr. Stephen Smith chairman of the committee on hygiene, Dr. George A. Peters chairman of that on ethics, and Dr. F. R. Sturgis of that on prize essays. Dr. Simon Baruch read a paper on The Management of the Third Stage of Labor.

— At a meeting of the Medico-Legal Society held November 19th a paper on Poisoning by Canned Goods, by Dr. Thomas Stevenson, of London, government analyst, was read. A paper on the same subject which was read by Dr. J. A. Irwin, before the Society recently by Dr. Johnson, of Brooklyn, had attracted his attention, and it was on account of this that he

was led to prepare the one then presented. In it he said that no positive case of acute metal poisoning by canned goods was known in London, and it was reasonably certain that where persons had been injuriously affected by eating canned meats the meat itself was tainted before being canned. In February last, he added, there were in Glasgow several cases of poisoning from tinned provisions, the symptoms being those of gastro-enteritis. An analysis showed salts of tin present, but it could not be proved that the illness was due to the tin. That canned goods usually contained traces of tin had been shown by several British chemists, and was a well established fact, but that such provisions did not usually produce any serious results was a matter of common experience. "I am not prepared to say," he stated in conclusion, "that tin compounds are inert, but evidence is wanting to show that the daily ingestion of fractions of a grain of tin compounds is manifestly injurious to health."

— "The American Society of Public Analysts" was organized at the office of Health Commissioner Raymond, in Brooklyn, on the 24th of November, the principal object of the Society being the dissemination of knowledge relating to the detection of adulteration and falsification of food products and drugs. A committee consisting of Dr. Cyrus Edson, of the New York Board of Health, Dr. E. H. Bartley, of the Brooklyn Board, and Dr. William K. Newtown, reported a form of constitution and by-laws, which was adopted.

— At a meeting of the New York Health Board held November 25th Dr. Cyrus Edson, chief of the Second Sanitary Division, reported that he had seized over fifteen hundred pails of preserved fruits on the ground that they were unfit for human food. He claimed that these fruits, being acid, were liable to attack the metal of the pails, which had loose covers, freely admitting air, and thus become exposed to dangerous contamination. A sample pail was examined by Dr. Waller, analyst to the Board, Inspector Martin, and himself, and the tin plate was found to contain lead. The action of Dr. Edson was indorsed by the Board.

— The Board of Health has been censured by the grand jury for alleged neglect of duty. The foreman reported to Recorder Smyth that in their opinion the storing of manure within the city was dangerous to the public health. It had been shown, it was set forth, that there were many tons of this manure along the East River, between Forty-Sixth and Forty-Seventh Streets, and diseases had been traced to this place as the originating point. In the opinion of the grand jury this was all due to neglect on the part of the Board of Health, which, they understood, was now meditating plans for the abatement of the nuisances. The Board was, however, deserving of censure for permitting such a state of things to exist. It is claimed by some that the Board is not as efficient now under the presidency of General Shaler as it was under that of Dr. Chandler.

— Dr. Charles Carroll Gray, a distinguished retired army surgeon, died at Geneva November 22d. He was educated at Hobart College, Geneva, and also studied medicine at that institution, receiving the degree of M. D. in 1861. In May of the same year he received an appointment as assistant surgeon in the army, and at the battle of Bull Run he was taken prisoner. He was confined successively in the prisons at Richmond, Salisbury, and Charleston, and was exchanged from the latter in 1862. He served throughout the war, and after it was over remained in active service in the army until 1879, when he was retired. His last assignment when on duty was at Fort Riley, Kansas.

— The report of the Committee on Vital Statistics of the State for the year ending September 30th shows that the number of registered deaths was 50,000; unregistered, but reported, 14,000; registered births, 44,000; unregistered, but reported, 24,000; registered marriages, 20,000; unregistered, but reported, 17,000. The average number of deaths per month was about 2200.

PHILADELPHIA.

— Our schools have settled down to their winter's work with classes not quite so large as last year, but they are better equipped, and are apparently doing better work than ever before. Professors Mallett and Osler have been warmly welcomed, and are considered decided accessions to the teaching strength of the two schools.

— A movement is now on foot which may result in good. For several years there has been a strong undercurrent of feeling in the medical profession throughout the State in favor of the establishment of some form of supervision over persons engaged in the practice of medicine, in order to protect both the community and the profession from the unqualified sharks who prey upon the sick. It is reasonable to suppose that the power to grant licenses to practice medicine belongs properly to the State, which cannot certainly evade the responsibility by delegating its duties to the College Faculties. The colleges, however, having enjoyed free trade in doctor-making for a long time, are extremely jealous of having their ancient rights restricted, and when a bill was brought before the Legislature a few years ago to establish a State Board of Health with power to regulate medical practice, the colleges at the last moment came in and quietly crushed it. This was a bitter disappointment to the Committee of the State Medical Society, which had been laboring for years to obtain a State Board of Health, and they naturally blamed the colleges for the defeat, and the result is that we have no Board of Health to this day. Without stopping to discuss who is to blame, we merely give this scrap of history to explain in part the hostile feeling which unfortunately and to some extent unjustly exists between some members of the State Medical Society and the schools.

— As an illustration of the state of public opinion, it is noticed that the County Medical Society and the Medical Jurisprudence Society have each appointed a Committee to confer with a Committee of the State Med-

ical Society with regard to the advisability and feasibility of establishing a State Board of Examiners, which shall be empowered to grant licenses to practice to those found qualified, and to refuse the privilege to those who after examination are found to be incompetent. This Committee has had several meetings and has agreed as to the advisability and necessity of establishing such a Board, all its proceedings to be matters of record, and they are now engaged in discussing whether there shall be one additional for sectarian practitioners, or whether it shall be a mixed Board. One of the most active members of the Committee is Professor Wood of the University of Pennsylvania. It seems very likely that something will be accomplished by this joint Committee, and that a bill will be submitted before our next Legislature. A little, a very little, was gained by the adoption of the Registration Act, but it was a step in the right direction, and we believe that the community is now sufficiently enlightened to take another step. It is now generally known that the value of a medical diploma is chiefly of an æsthetic character, for it is not trustworthy evidence of the skill, professional attainments, moral character, or length of preparation of its possessor. Certainly some other proof of qualification should be demanded besides a stereotyped certificate of doubtful accomplishments, written in a dead language, before an individual may enter upon the serious and responsible duties of the profession of medicine.

— The Medical Jurisprudence Society, which started last January, is growing rapidly, and its meetings are well attended and interesting. At the October meeting Dr. John B. Roberts read a paper entitled Remarks on Legal Control of Medical Practice by a State Examination, which led to the appointment of the Committee just referred to. At the November meeting Dr. Charles K. Mills read a paper on The Case of Joseph Taylor, and Dr. H. C. Wood on The Absurdities of the Law as Illustrated in the Taylor Case. John Taylor was an inmate of the prison who killed his keeper, and who was found guilty by the Court, in spite of the fact that a Medical Commission had pronounced him insane, and suffering from delusional monomania. Weak-minded criminals have a hard time of it since Guiteau was hanged. What is very much needed is a sliding scale of responsibility suited to various degrees of mental unsoundness.

— Professor DaCosta recently exhibited a case at his clinic in which an attack of facial erysipelas was cut short in a remarkable manner by a hypodermic injection of a third of a grain of pilocarpine muriate. The patient received a blow in the face on Wednesday night, and the next morning the upper part of his face was erysipelatous, the inflammation extending rapidly up on the brow and over to the other eye. On Thursday afternoon he received the injection and after profuse sweating the tumidity of the eyelids subsided, and by the next morning he could open both of his eyes. The disease did not return and he became at once convalescent, but took iron for a few days before going home again.

— A curious form of lead poisoning was reported in a case of a woman whose death was investigated by the Coroner last week. The physician who made the examination reported that death was caused by inhalation of the fumes of the white lead paint on old boards which she had been in the habit of using for fuel.

— Dr. Robert H. Alison having resigned the position of Port Physician, it was tendered by the Governor to Professor Bartholow, who declined it; subsequently Dr. Henry Leffmann was appointed.

— On the 18th of November the large addition, built in modern style of Yardleyville freestone, to the German Hospital and out-buildings were presented to the Board of Trustees by John D. Lankenau, Esq., the President of the Board, who at his personal expense had purchased the ground and erected the buildings at a cost of three hundred thousand dollars. A most generous and philanthropic gift.

Correspondence.

COCAINE HYDROCHLORATE IN THE LARYNX.

BOSTON, *December* 1, 1884.

MR. EDITOR, — In the report of the Proceedings of the Society for Medical Improvement published in the JOURNAL of last week I said we had everything to learn in regard to the strength of the solution of cocaine hydrochlorate to be used as a local anæsthetic of the larynx, and also in regard to the best manner of applying it.

I have since tried a twenty per cent. solution (which I learned from recent German papers was the strength used in Schrötter's clinic) on the patient mentioned in the discussion as showing little effect from a four per cent. solution. The result was all that could be desired, sufficient anæsthesia being produced to enable me to reach any part of the larynx without exciting reflex phenomena, which before had been very marked and troublesome.

The solution was applied thoroughly to the larynx by means of a camel's-hair brush, and the anæsthetic effect was almost immediate. The solution was made without acid by adding a few drops of absolute alcohol.

I make this communication to prevent others wasting time with too weak solutions.

Yours respectfully,

FREDERICK I. KNIGHT, M. D.

Miscellany.

PRECAUTIONS AGAINST CHOLERA.

UNDER the above heading President Arthur makes the following discreet recommendations in his recently delivered annual message: —

The pestilence which for the past two years has been raging in the countries of the East recently made its appearance in European ports with which we are in constant communication. The then Secretary of the Treasury, in pursuance of a proclamation of the President, issued certain regulations restricting, and for a time prohibiting, the importation of rags and the admission of the baggage of immigrants and of travelers arriving from infected quarters. Lest this course may

have been without strict warrant of law, I approve the recommendation of the present Secretary, that Congress take action in the premises, and I also recommend the adoption of measures that will be likely to ward off the dreaded epidemic, and lessen its severity in case it should unhappily extend to our shores.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 22, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	603	225	22.40	16.64	3.52	7.68	2.56
Philadelphia	927,995	361	114	27.24	15.68	5.32	16.52	3.08
Brooklyn	644,526	239	79	16.38	23.94	—	8.40	.84
Chicago	632,100	229	99	36.90	12.15	4.50	20.70	4.05
Boston	423,800	159	42	15.75	16.38	1.89	6.93	.63
Baltimore	408,520	147	42	22.16	14.48	4.08	10.20	—
St. Louis	400,000	151	50	31.02	9.90	3.30	7.26	7 26
Cincinnati	272,400	131	53	19.76	13.68	1.52	5.32	1.52
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	81	25	14.76	14.76	4.92	3.69	2.46
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	46	11	13.02	10.85	4 34	2.17	6.51
New Haven	62,882	29	12	20.70	6.90	6.90	6.90	—
Nashville	54,400	24	7	37.44	16.64	—	8.32	—
Charleston	52,286	37	14	2.70	8.10	—	—	—
Lowell	71,447	24	4	24.96	12.48	4.16	16.64	—
Worcester	69,442	20	6	25.00	10.00	—	25.00	—
Fall River	62,674	22	13	40.95	13.65	—	9.10	4.55
Cambridge	60,995	18	8	11.11	22.22	—	—	5.55
Lawrence	45,516	10	5	20.00	—	—	10 00	10.00
Lynn	44,895	18	3	16.66	22.22	5.55	5.55	—
Springfield	38,090	12	4	33.33	8.33	8.33	25.00	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	10	2	40.00	30.00	20.00	10.00	—
New Bedford	30,144	12	4	8.33	16.66	—	8.33	—
Salem	29,503	7	0	—	14.28	—	—	—
Chelsea	24,347	8	1	12.50	37.50	—	—	—
Taunton	22,693	13	2	61.52	7.69	15.38	39.45	—
Gloucester	21,400	—	—	—	—	—	—	—
Haverhill	20,905	5	1	20.00	20.00	—	20.00	—
Newton	19,421	3	1	66 66	—	—	—	—
Brockton	18,323	4	0	25.00	50.00	25.00	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	4	0	—	50.00	—	—	—
Fitchburg	13,433	5	2	20.00	—	—	—	—
Massachusetts towns	—	60	9	8.20	6.56	—	6.56	—

Deaths reported 2492: under five years of age, 838; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 596, consumption 386, lung diseases 311, diphtheria and croup 256, typhoid fever 71, scarlet fever 60, diarrhœal diseases 58, malarial fevers 37, measles 34, whooping-cough 29, cerebro-spinal meningitis 14, erysipelas nine, puerperal fever seven, yellow fever one. From *diarrhœal diseases*, New York 22, St. Louis eight, Brooklyn, Chicago, and Boston five each, Cincinnati four, Nashville three, Baltimore and Fall River two each, New Haven and Chelsea one each. From *malarial fevers*, St. Louis 10, New York and Brooklyn seven each, Baltimore five, Chicago three, District of Columbia two, Philadelphia, Nashville, and Charleston one each. From *measles*, New York 16, Cincinnati nine, Brooklyn, Chicago, and Fall River two each, Fitchburg and Boston one each. From *whooping-cough*, New York 12, Philadelphia, Chicago, and Baltimore three each, Brooklyn two, Boston, Cincinnati, District of Columbia, New Haven, Lynn, and Newton one each. From *cerebro-spinal meningitis*, New York six, Chicago three, Philadelphia, Boston, Lowell, Holyoke, and Taunton one each. From *erysipelas*, Philadelphia and Fall River two each, New York, Boston, Baltimore, Cincinnati, and Nashville one each. From *puerperal fever*, New York and St. Louis two each, Brooklyn, Chicago, and Boston one each. From *yellow fever*, New York one.

In 111 cities and towns of Massachusetts, with an estimated population of 1,386,654 (estimated population of the State 1,955,104), the total death-rate for the week was 15.60 against 18.08 and 22.66 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending November 8th, the death-rate was 21.3. Deaths reported 3569: infants under one year of age 899; acute diseases of the respiratory organs (London) 357, scarlet fever 82, measles 79, diarrhœa 73, fever 60, whooping-cough 49, diphtheria 26, small-pox 23. The death-rates ranged from 16.6 in Birkenhead to 31.5 in Preston; Birmingham 18.3; Bradford 21.2; Leeds 25.2; Blackburn 19.8; Leicester 20.8; Liverpool 26.0; London 19.7; Manchester 25.4; Nottingham 25.7; Sheffield 22.4; Sunderland 20.8. In Edinburgh 17.6; Glasgow 25.6; Dublin 25.3.

For the week ending November 1st, in the Swiss cities, there were 17 deaths from consumption, diarrhœal diseases 14, lung diseases 11, diphtheria and croup five, small-pox two, typhoid fever three, measles one, whooping-cough one. The death-rates were, at Geneva 12.2; Zurich 7.9; Basle 12.4; Berne 23.3.

For the week ending November 8th, in the Swiss cities, there were 21 deaths from consumption, lung diseases 14, diarrhœal diseases nine, diphtheria and croup five, whooping-cough five, puerperal fever two, measles one, scarlet fever one. The death-rates were, at Geneva 10.2; Zurich 3.9; Basle 12.4; Berne 31.1.

The meteorological record for the week ending November 22d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Nov., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 16	30.026	44	55.6	33	98	61	83	81	SW	S	SW	4	7	4	F	O	C	—	—
Mon., 17	29.800	47	52	40	86	79	78	81	NW	NE	N	4	2	18	O	C	C	—	—
Tues., 18	30.265	30	47	25	76	37	71	61	NW	N	N	19	8	12	O	F	O	—	—
Wed., 19	30.280	30	36	25	94	92	90	92	N	E	N	12	28	26	Lt. Sn.	Lt. Sn.	Lt. Sn.	—	—
Thurs., 20	30.031	32	37	26	82	81	87	83	N	NW	W	20	8	16	T	O	C	—	—
Fri., 21	30.257	37	46	29	93	90	71	85	SW	SW	W	8	19	12	G	C	C	—	—
Sat., 22	30.454	42	50	35	78	78	78	78	W	E	S	4	6	10	O	C	C	—	—
Mean, the Week.	30.159	37.3	55.6	25.1				80.1										27.00	0.35

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM NOVEMBER 22, 1884, TO NOVEMBER 28, 1884.

McKEE, JAMES C., major and surgeon. Leave of absence extended one month. S. O. 273, A. G. O., November 20, 1884.

GODDARD, C. E., major and surgeon. Assigned to duty at Fort Yates, D. T. S. O. 138, Department of Dakota, November 15, 1884.

LORING, L. Y., captain and assistant surgeon. Assigned to duty, as post surgeon, San Diego Barracks, San Diego, Cal. S. O. 135, Department of California, November 19, 1884.

TAYLOR, A. W., first lieutenant and assistant surgeon. Relieved from duty at Fort Omaha, Neb., and ordered for duty at Fort D. A. Russell, Wyo. Ter. S. O. 101, Department of the Platte, November 19, 1884.

WILSON, GEORGE F., first lieutenant and assistant surgeon. Granted one month's leave of absence from November 20th (Vancouver Barracks, W. T.). S. O. 180, Department of Colorado, November 18, 1884.

WALES, PHILIP G., first lieutenant and assistant surgeon. Now at Fort Cœur d'Alene, Idaho Ter., ordered for temporary duty at Vancouver Barracks, W. T. S. O. 179, Department of Colorado, November 17, 1884.

OBITUARY.

DR. HARVEY L. BYRD died in Baltimore, Md., November 29th, at an advanced age. Dr. Byrd was a native of Georgia. For many years he was a professor in the Medical College of Mobile, but at the breaking out of hostilities in 1861 he joined the Confederate army, and was attached as surgeon to Rylander's battalion of Georgia troops. He served in the army of Northern Virginia, and was thence transferred as post surgeon at Mobile, where he remained until the close of the war. After the war he came to Baltimore, and was one of the originators of the College of Physicians and Surgeons. Subsequently he helped in the organization of the Baltimore Medical College.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Section for Clinical Medicine, Pathology, and Hygiene.* — There will be a meeting of this Section at 19 Boylston Place, on Wednesday, December 10, 1884, at 7.45 P. M. Papers by Dr. J. J. Putnam, Illustrations of Certain Developmental Diseases of the Nervous System, and Dr. P. C. Knapp, Observations on the Cutaneous and Deep Reflexes.

ROBERT T. EDES, M. D., *Chairman.*

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The regular meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on the second Thursday of December, at four o'clock, P. M. Papers will be read as follows: Dr. Charles R. Whitcomb, on Cancer of the Uterus, and Dr. M. L. Brown, on The Pathology of Uterine Fibro-Myomata.

H. J. HARRIMAN, M. D., *Assistant Secretary.*

BOOKS AND PAMPHLETS RECEIVED. — A Contribution to the Clinical Study of Rötheln or German Measles. By W. A. Edwards, M. D. (Reprint from the American Journal of the Medical Sciences, October, 1884.)

Contributions to Surgery and Medicine. Part I. Intestinal Disease and Obstruction. London: K. K. Lewis & Co.

Leçons de Clinique Chirurgicale Faites à l'Hôpital Necker par le Dr. Charles Monod. Paris: Publications du Progrès Médical.

A Handbook of Ophthalmic Science and Practice. By Henry E. Juler, F. R. C. S, Ophthalmic Surgeon to St. Mary's Hospital. With 125 Illustrations. Philadelphia: Henry C. Lea's Son & Co. 1884.

Coryza Vasomotoria Periodica ("Hay Asthma") in the Negro, with some Remarks on the Ætiology of the Disease. By John N. Mackenzie, M. D., of Baltimore. (Reprint from Medical Record, October 18, 1884.)

Transactions of the Academy of Medicine in Ireland. Vol. II. Edited by Wm. Thomson, M. A., F. R. C. S., General Secretary. Dublin: Fannin & Co. 1884.

Transactions of the Medical Society of the State of New York. For the Year 1884. Published by the Society.

On Diseases of the Rectum and Anus. Including a Portion of the Jacksonian Prize Essay on Cancer. By Harrison Cripps, F. R. C. S. Philadelphia: P. Blakiston, Son & Co. 1884.

Dental Caries, a Critical Summary, and the Prevention of Dental Caries. A Series of Papers read before the British Dental Association. By Henry Sewill, M. R. C. S. and L. D. S. Eng. London. 1884.

Annual Report of the National Board of Health. 1883. Washington: Government Printing Office. 1884.

Transactions of the Texas State Medical Association. Sixteenth Annual Session. Held at Belton, Texas, April 22-25, 1884. Fort Worth, Texas. 1884.

Malarial Fever in Parturient Women. By Philip C. Williams, M. D. (Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland.) 1883.

Club-Foot. Is Excision of the Tarsus necessary in Children? By De Forest Willard, M. D., Lecturer on Orthopædic Surgery, University of Pennsylvania, etc. (Reprint from Transactions of State Medical Society for 1884.) Philadelphia. 1884.

Prostatic Hypertrophy and Urinary Obstructions. Its Treatment without Catheterism. Delivered at the Annual Meeting of the Michigan State Medical Society, held at Grand Rapids, June 11 and 12, 1884. By A. B. Palmer, M. D., LL. D., Ann Arbor.

Conférences Therapeutiques et Cliniques sur les Maladies des Enfants. Par le Dr. Jules Simon. Tome II. Publications du Progrès Médical.

Annual Report of the Board of Regents of the Smithsonian Institution, showing the Operations, Expenditures, and Condition of the Institution for the Year 1882. Washington. 1884.

The National Dispensatory. Third Edition. By Alfred Stillé, M. D., LL. D, and John M. Maisch, Phar. D. Philadelphia: Henry C. Lea's Son & Co. 1884.

Address.

CONSERVATIVE PROGRESS.[1]

FIRST ANNUAL ADDRESS TO THE NEW YORK STATE MEDICAL ASSOCIATION, DELIVERED IN NEW YORK, NOVEMBER 18, 1884.

BY HENRY D. DIDAMA, M. D., SYRACUSE, PRESIDENT.

Is not this platform broad enough to afford standing and working room for every one who seeks to know and practice truth?

It is fashionable in certain quarters to decry the medical schools of our country; to censure their practice of so oiling their portals that the grossest ignorance can find an easy and welcome admission; to inveigh against their methods of teaching; and to condemn the facile, if not farcical, examinations which permit incompetence to seize a title and go forth to prey upon community.

Indiscriminate and unmixed reprobation is not only unjust; it defeats its purpose. For whatever may be the deficiencies of our great schools, however far they fall short of what they can and should be, they have excellencies which should not be ignored. They have given to the profession men renowned throughout the world for their wisdom and skill. In their corps of teachers are many whose aptness and industry and ability are unsurpassed. They afford clinical opportunities so rich and varied as to leave nothing to be desired.

If their requirements for entrance and exit have been too low, is it not because the profession have not demanded higher? If the terms have been too short, and the years required too few, and the methods unnatural and deficient, is it not because the profession have given little practical encouragement to the hearty, even if too speedily abandoned, attempts which some of the schools have made to secure needful reform?

Can it be doubted that the accomplished and devoted teachers in the schools are always ready and willing to respond to any earnest call of the profession for a higher standard?

Shall this call be made? Will those who make the demand prove their sincerity by pledging their influence, their aid and comfort, to those schools which, at whatever labor and expense, shall eliminate the faults of the present system and bring it into harmony with the teaching in all institutions of learning, and with the law of mental evolution and growth?

That brilliant results have been achieved under the prevailing system of medical teaching has not been, and cannot be, denied. Would they not have been still more brilliant and satisfactory under a better system?

The native Ceylonese, with instruments which would hardly be tolerated in an American blacksmith's shop, sits on the ground and patiently fabricates jewelry and filigree which are marvels of exquisite delicacy and beauty. Retaining his present artistic taste and skill how much more and better work could he do with the perfected instruments of his civilized brother?

The superiority of the graded system of medical training is not universally acknowledged. At least one prominent teacher and one good medical journal openly profess not simply a contentment with the present unnatural system, but an admiration for it, and a desire to have it conserved. The attempts to reduce chaotic elements to order they denounce as impracticable, and they kindly predict and counsel their early abandonment.

Proposed reforms always provoke some opposition. The attempt to introduce into Mexican farming such modern implements as the steel plow, the cradle, the reaper, and thresher, is earnestly combated by many of the native workers. They not only adhere to the sickle and to the old one-handled Palestine plow, — an iron-shod stick which barely scratches the soil, — and to the threshing floor, where oxen and mules tread out the grain, but they insist that this clumsy system is the better. They hill their corn as our own farmers did fifty years ago. They use a hoe in the operation. But the hoe has no handle, and the native partly creeps and partly jumps, like a kangaroo, from hill to hill, as he goes through the field. Still he loves and reveres the old ancestral implement. He denounces the handle as a device to promote laziness. And he asserts that with a primitive hoe in each hand he can do more and superior work. It was only by compulsion that these earnest Mexican conservatives could be brought to use wheelbarrows on the public works. They preferred to carry their loads of stone and dirt on their backs and heads. And such was their devotion to their ancient method that at first they actually shouldered wheelbarrow, dirt, and all, and then vociferously condemned the new notion as a fraud and nuisance.

Honest differences of opinion should be treated with respect and tenderness. And since these differences exist regarding medical education it may not be unprofitable briefly to compare and contrast the antique system with the modern.

Most of you know from personal experience that in the large majority of medical schools in this country the student, at the very outset, is expected and required to hear lectures on all the branches taught — the most advanced as well as the elementary — every day. Although not usual, the occurrences to be described are by no means impossible. An ingenuous youth, full of zeal, industrious, ambitious, but with scant knowledge of the elements of the most moderate education, is received without question at the grand old conservative college. He matriculates. He attends a lecture on anatomy, — the first he ever heard of this important subject. He is delighted. He enters the laboratory and listens with pleasure and profit to the professor of chemistry. Truly, he says to himself, the ways of wisdom are ways of pleasantness, and all her paths are flowery walks of peace.

He hastens into the surgical department. The lecture is introductory. But in a few days, and while his knowledge of anatomy is still limited to an awful admiration for the suspended skeleton and for the tray of disarticulated bones on the table, the subject of the lecture is aneurism. The bright description, the lucid explanation make the whole subject interesting and satisfactory. The eloquent professor describes the operation for ligating the radial artery in its lower third: "Hold the hand supine; make an incision two inches long on the radial side of the *flexor carpi radialis*. The integument and aponeurosis being laid open the artery is at once brought into view." This is all clear enough to you, learned Fellows, because you have received sufficient anatomical instruction. But the fresh pupil whom we are considering, — one of us perhaps, — whose hopes but a few days ago were radiant and

[1] Concluded from page 531.

towering, becomes perplexed and disheartened, if not disgusted, because he has no knowledge of what radial may mean, whether aponeurosis is an animal or vegetable, or whether the *flexor carpi radialis* be a bone, nerve, or sinew, situated on the crown of the head or sole of the foot.

After the wearisome — wearisome because incomprehensible — incomprehensible because the student has not been prepared to understand it — lecture on surgery is ended, the still plucky pupil ventures into the room where the professor of the art of medicine is showing how insufficiency of the tricuspid valve, by obstructing the onward flow of blood in the *vena cava*, may cause congestion of the portal system, and then gastric catarrh, hæmorrhage, and albuminuria. He does not doubt the truth of the demonstration. But it loses all its beauty and force because the poor fellow has not the slightest notion of what tricuspid, or any other valve, may be, or where the *vena cava* or portal system is located.

In the obstetric department the same failure to comprehend the lecturer results from the same want of preparation. But the rules of the school require attendance on all the lectures. And so, hour after hour every day is wasted, by an earnest and ambitious student, in listening to what he cannot understand, and so neglecting the studies which are prerequisite.

The short winter course is passed, and the student emerges in the early spring with a head full of jumbled and meaningless words, with muddled ideas of medicine, obstetrics, and surgery, and with insufficient knowledge of anatomy, physiology, and chemistry, *because* the time which should have been devoted to these fundamental studies has been frittered away in a dazed attendance on lectures he had never been prepared to understand. The next winter he goes through exactly the same course, but he is now better able to comprehend the teaching.

In *building a dwelling-house* you prepare a plan, — first consulting the good wife regarding the fitness of things, — and then you go ahead decently and in order. You lay the foundations deep and broad and strong. You carry up the superstructure carefully and gradually, so that no cracks nor flaws shall afterwards appear. You put on the roof; finish the rooms honestly, without veneer or graining, and wait a sufficient time before you move in with your family. You do not jumble all together, working an hour on the turret, another on the trench for the cellar walls, and still another on window sills and hard finish and joists and rafters.

If you were to *train for an athlete* you would not unwisely overstrain your sinews the first day by doing work beyond your ability. You would begin with light weights and moderate walks, increasing the labor each day as the muscles became developed and strong.

If it should be proposed to *evolve a mathematician* out of raw material we would not ask the candidate the first day to solve the problem of the hare and hounds, nor to listen to a demonstration of the twelfth Proposition of Euclid. We would begin with the simplest examples in addition and subtraction, and then advance through the higher and still higher departments, till at length, like Verrier, the fully-developed candidate could discover and locate a planet by pure mathematical calculation.

In *training a child* to be a *linguist* we begin with the simplest form of speech and lead him on, by precept and example, till he can speak with the tongues of men and of angels, and have charity besides. It would be unnatural, and therefore unwise, to allow him to waste time at the start in listening to the sounding brass of Cicero's orations, or the tinkling cymbals of Xenophon's fables.

If in every other department of human industry the natural development plan is pursued without opposition or question, why should medical education be the marked exception? Why, if we wish, as we ought, to *utilize* to the utmost *the time and talents* of a *medical student*, should we not take him step by step — for that is what the graded course means — through Anatomy and Physiology, Histology and Chemistry up to Surgery and Practice and Obstetrics? Why should we have him fritter away the scant but precious hours of his first course of lectures in listening to what he cannot by any possibility fully comprehend? Would not this be doing what ought not to be done, and leaving undone what ought be done?

The natural system of medical education is no longer a beautiful and dreamy speculation. It has been fairly tested, and it has been found efficient. Those who know it best give it the heartiest approval. The requirements for matriculation are, or should be, more and more exacting every year. The written and oral examinations are frequent and thorough. The yearly and final ordeals are very trying and severe; but the students who have brains, application, and faithfulness always come through triumphantly. Even those whose natural capacity is not the greatest succeed remarkably. Under a natural system their mental growth is rapid and astonishing. At the last they seldom fail because their time has been husbanded and properly employed; because their studies have been interesting and delightful inasmuch as they have been thoroughly comprehended and mastered every step of the way.

Here are two pictures. Do they not represent the prominent differences in requirements and results between the ancient, but still prevailing system, and the modern one?

In one case: No preliminary examination; only two short courses of lectures required, the second identical with the first; the novice required to attend lectures on every subject every day, neglecting preliminary work because the time which might have been devoted to it has been worse than wasted in hearing learned talk which he was not prepared to understand; valuable clinical and laboratory opportunities; no examinations to advance to higher grades, for there are no grades; a final examination which is so superficial in many instances as to be little better than a farce, and whose meshes are large enough to let mediocrity and inferiority, as well as the superiority, which is always present, pass through with greatest ease.

In the other case: Preliminary examinations which require a certain, even if insufficient, preparation; three years of training at the college, the novice beginning at the beginning; all his time employed in hearing and doing what he can and should understand; his capability and progress tested by frequent oral and written examinations; his advance from grade to grade checked if his fitness be not established; valuable clinical and laboratory opportunities; searching yearly examinations; and a final examination, which, although of great severity, does not, except in rare instances, result in rejection, because the student has been educated in a way which accords with nature and does not violate it.

And yet the difference between the old system and the new is greatly one of arrangement. A change from one to the other can be effected with as little commotion as was noticed when twenty discordant and puzzling computations were consolidated into the present admirable system of standard time.

No more teachers would be required; no better lectures could be delivered, or would be needed. The labors of the professors would be considerably increased because the total length of the lecture season would be more than doubled, but they would hardly be conscious that a radical change, amounting to a revolution, had taken place. But the students, who are to be the physicians of the future, and the confiding patients of these physicians, would derive incalculable benefit.

Would not the adoption, by all the schools of this country, certainly by those of this State, and especially by the three prominent ones in this medical metropolis, of the natural system with the honest and vigorous enforcements of its entire demands, secure a practical elevation of the medical standard, so much yearned for, deserve the support of the profession, and restore a confidence which has been seriously impaired? Would not this adoption protect the community to the greatest extent possible from incompetence, and render unnecessary, so far as legitimate medicine is concerned, — the only medicine about which we have any solicitude, — the proposed State Board of incongruous Medical Examiners?

Original Articles.

NOTES ON NASSAU AS A WINTER RESORT.

BY HAMILTON OSGOOD, M. D.

Physicians of our Northern States are frequently puzzled as to where to send such patients as are unable to bear a northern winter. Many of the winter resorts in our Southern States are situated upon our Atlantic seaboard, or at any rate are exposed to sudden fall of temperature, and therefore are not entirely suitable for the very delicate. But we have one spot which is free from the latter objection. The town of Nassau, on New Providence Island, one of the Bahamas, has a climate whose temperature in winter is marvelously steady, and for such cases as may be safely sent there Nassau possesses advantages which can be found nowhere else in the vicinity of our country, and very rarely, and perhaps with only two or three exceptions, in the Eastern hemisphere.

Moreover, Nassau lies near at hand. One of the swift sailing steamers — the Cienfuegos and the Santiago — leaves Pier 16 or 17, East River, New York, every other Thursday during the winter. The agents of this line of steamers, J. E. Ward & Co., 113 Wall Street, are prompt and courteous. Leve & Alden, Washington Street, near the Old South Church, are their Boston agents.

These steamers are luxurious in every respect. The Cunard line never gave its passengers such a bill of fare, nor food so excellently prepared, as may be found on these Nassau steamers, and whoever falls into the hands of Chief Steward Petersen of the Cienfuegos will discover a steward who is kind to his passengers, especially invalids, not because he expects a fee (he is a *rara avis*, inasmuch as he refuses fees) but because he *will* make them comfortable, and if a lady desires a quail on toast or broiled oysters at nine P. M. she can have either. I emphasize this matter because it is important. Those who go to Nassau are usually delicate, and the physicians who send them will be glad to know that the ocean trip will be as comfortable as luxuries can make it. Moreover, such is the gentlemanly care extended to passengers by the stewards, that if a lady were left safely on board one of these steamers in New York, I should deem it perfectly feasible for her to make the trip alone if necessity urged it.

The fare to Nassau is fifty dollars. The trip occupies sixty to seventy hours. You leave New York deep in snow and ice on Thursday P. M. On Sunday you are looking upon the luxuriant tropical verdure of Nassau and are eager to exchange winter garments for a summer dress. At this season the passage commonly is quiet and free from severe weather. The hurricanes and dangerous storms to which the Southern Atlantic Islands are often subjected confine themselves to the months between April and October.

Reaching Nassau, the passenger encounters the one disagreeable feature of the trip. It is impossible for the steamers of the Ward line to cross the bar into the harbor. Passengers, therefore, are transferred outside of Hog Island (a long, low, green breakwater which nearly incloses the lovely sheet of water lying between itself and Nassau proper) into a filthy schooner, reeking with the smell of bilge water, and too well known as the Dart. If she were called the Dirt, there would be a satisfactory fitness in the name. It is no joke for a delicate lady to walk down a steeply inclined plank into this tender, which, probably, is flying up and down in a chop sea. Once on board, however, the trip to land is made within thirty minutes. *But*, — and this is truly a terrible alternative, — *but*, if the wind blow strongly from the north, no such transfer can be made at this anchorage. The steamer proceeds to South West Bay, on the other side of the island, and there in quiet waters removes her passengers to the dirty Dart, which is obliged to beat all the way to Nassau, sometimes occupying ten hours before reaching the town. The effect of this prolonged transfer upon invalids, without food or shelter, need not be described. When I left Nassau the steamer agent at that place had just begun to send carriages across the island to meet passengers whenever the steamer was forced to go to South West Bay. In that case they were set ashore in row boats. Still, this method involves a drive of about sixteen miles, and sometimes it must be taken after dark. It would be well in writing for rooms by a preceding steamer to request Mr. Morton of the hotel to send a carriage to meet the steamer in case she be obliged to go to South West Bay. A passenger could in any case be set ashore in a row boat in order to take the carriage.

When I left Nassau something was being done in the direction of cutting a channel across the bar in order to allow vessels drawing over fifteen feet to enter the harbor. If America owned Nassau this would have been done years ago. But Nassau, in so far as improvements are concerned, is the quintessence of Sleepy Hollow, and its rulers are mostly sleepy fellows.

Once in sight of the place, you see a town straggling picturesquely along a low shore, made tropical by groups of banana and cocoa-nut, almond, palm, and other trees of the latitude, and climbing gradually

away from the harbor until it reaches a height of 230 feet, and there it stops, for the island goes no higher. Landing at the wharf you may walk in five minutes to the hotel if you choose, taking your left along Bay Street to Parliament Street and so up to the gates of the Royal Victoria Hotel, a large building of limestone, set in an outer frame-work of balconies and large posts — the house being white, the wood-work red. This is a surprisingly well-kept house, and Mr. Morton, the obliging and courteous host, understands his business. When one considers that all meats and ice, oysters and game, and wines, and many vegetables must come from New York, the table, which is well served and liberally supplied, seems remarkable. The house is absolutely clean. Scrubbing never ceases. Rates of living vary from $1.50 to $3 per day, according to location. Well water in Nassau is unsafe for drinking purposes. The water used for drinking at the hotel is rain water stored in a cistern, and seemed perfectly pure. There are no water-closets or fixed wash-basins in the hotel proper. The outlook from the northern side over quaint houses and profuse verdure upon the beautiful harbor is very charming. The favorite rooms are upon this side of the house, but inasmuch as the sun never touches this front, I should advise invalids to choose southern rooms. They are a little warmer during the day, but they have the medicinal benefit of sunshine. Inmates can occupy the balconies on the northern front during the day if so inclined. Write for rooms in the eastern and southeastern end of the house. Rooms facing directly south are a little noisy in early morning hours. Attached to the hotel is an old building formerly used, and now known as a "College Building." In this house the three rooms on the upper and *western* side are the best and quietest of all.

The dews of Nassau are phenomenally heavy. This is another reason for choosing southern rooms. The northern apartments are much damper. It is not safe for invalids to be out of doors after five o'clock P. M., and nine o'clock in the morning is quite early enough for out-of-door plans. During the winter rains are infrequent and the sun an almost constant companion. When one first experiences Nassau weather it seems oppressively warm, and the temptation is to leave windows open at night. It is safer, however, to close all windows at six P. M., and wait until equilibrium between the temperature of the earth and air has become somewhat established before opening them again, and then only one should be raised, and that merely a few inches. The dampness of the night air in Nassau is often a serious matter to patients who are subject to rheumatism or neuralgia. It disappears quickly after sunrise, for the island is composed of very porous limestone, and together with the heat of the sun very soon disposes of moisture. After four P. M. invalids will do wrong to *sit* out of doors. They may walk until five o'clock on sunny days.

As to amusements: There are delightful walks and drives in various directions. The roads are smooth and solid. Saddle ponies at seventy-five cents the hour are numerous, and one may ride daily at even lower rates. For driving, a carriage and man may be engaged for two hours daily at a cost of six to eight dollars per week. The horses are small but able. Space will not permit a description of the very beautiful though quiet scenery of the island and of its objects of interest. For those who are able shooting repays all trouble. Fish are remarkably plenty, and of such great variety that they have never been classified. Fishing, therefore, is a favorite sport, and by sailing a few miles out you may catch noble sea-bass and be seriously plagued at the same time by sharks. The lesser fish have received most comical names. At breakfast you eat "Hamlet," "Dauphin," "Cock-eye," "Grunt," "Nurse," "Pilot," "Miss Nix," or "Schoolmaster." To eat a *filet* of *fried schoolmaster*, by the bye, gives one a sense of compensative justice, even though school days *be* far in the dim past. Sailing is another enjoyment, and there was never more perfect opportunity nor finer waters. There are several good and fast boats managed by negroes who are thoroughly competent. Engage Capt. Billy Major, and you will have his new boat and a most companionable skipper. The "Sea-Gardens," the "Sea-Windows," the "Coral Reefs," and the islands are the favorite objects of a water trip. The exquisite sea-fans, coral, "Angel," and "Rainbow" fish are vividly seen at the Gardens, and a black fellow will bring up any fan or coral or sponge you may point out.

Near the hotel, in an octagonal building, once used as a prison, and formerly occupied many a time by private prisoners (for Nassau was once the favorite rendezvous of the notorious Blackbeard), is a well-chosen circulating library of 6000 volumes. Fifty cents per month allows one to take out five volumes daily. There is a sightly church devoted to the English service. Churches of every denomination are numerous among the blacks, who are steady church-goers. Shops are plenty. There is one good apothecary shop, the "Nassau Dispensary." In another I asked the proprietor where he obtained his alkaloids. A look of blank stupidity was the reply I received. He had never before heard the word. There are 16,000 inhabitants, of which, perhaps, 300 are whites, the remainder, naturally, are negroes, and mostly of the happy-go-lucky order, who think themselves equal, if not superior, to the whites. The men and boys beg for coppers on all occasions, and for no reason. Women and girls never do. But all are civil and good-natured. The soldiers of the garrison are black, their officers white.

It is claimed that the climate of Nassau is not debilitating. This is untrue. Many over-enthusiastic articles upon Nassau have been and will continue to be written. Many individuals, the greater number of visitors, indeed, find the air debilitating, especially during the early days of their stay. Ocean breezes are very nearly constant, but they are warm and moist. The temperature is remarkably uniform. I saw the mercury at 65° F. I saw it once only at 80° F. But during nine days out of ten, between December and March, it varies between 70° F. and 75° F., until one begins to disbelieve the thermometer. During my stay of two months I kept careful record of the thermometer, the average being, at nine A. M., $71\frac{9}{10}$° F.; at 1.30 P. M., $73\frac{1}{2}$° F.; at 6.30 P. M., $71\frac{3}{4}$° F. Barometer averages a pressure of 30′ throughout the winter.

Observation convinced me that phthisis in the early stages will improve in this climate *if*, let it be noted, patients are careful in regard to their hours out of doors. It is claimed that this disease rarely or never originates in Nassau, excepting among the blacks, and they average only four cases in 1000. I think it would be as unfair and as hopeless to send a patient in the advanced stages of consumption to Nassau as to send him elsewhere. Heart disease ought to improve here.

Neuralgic and rheumatic patients who were at Nassau last winter cursed the day of their coming and their doctors for sending them there. On the contrary, I met others who, notwithstanding they suffered last winter, had been there every winter for years, and will continue to go. Of course every case, whether of rheumatism or consumption, is largely a law unto itself, and this explains why one case thrives and another does not. Much depends upon a clear understanding of his patient's peculiarities before a physician sends him to this or any other winter resort. According to Dr. Kirkwood, a resident physician of forty years' observation, "consumption invariably finds relief in Nassau." A few grains of salt were well applied to this statement. Incipient phthisis would, probably, improve or be arrested. Likewise, but with less certainty, phthisis in the second stage. Consideration, however, should be given to the ability of a given case to live in sea air which is more or less charged with moisture. Invalids have strong idiosyncrasies in regard to sea air. It stimulates some; others are depressed by it. Here, again, the physician should know whether his patient can bear such an atmosphere. Bronchial catarrh, according to my experience, improves in salt air, and, therefore, at Nassau. Still it must be remembered that Nassau debilitates a large percentage of invalids who go there. But after leaving the island they find they have gained in strength. The climate continues its good effects weeks after it has been left behind. Syphilis, even of the slightest degree, does very badly in this climate, and progresses rapidly. In one case which I treated while there the disease, supposed to have disappeared fifteen years before, made its appearance in the long bones. Hip-joint cases and rachitis improve in Nassau.

Malaria and remittent fever abound during the summer, and in some localities during the winter, especially if the wind blow from the south. The latter is sometimes so intense that it suggests yellow fever, a few cases of which sometimes occur in summer. Leprosy exists, and there is a special hospital for lepers.

Cases of nervous prostration find the Nassau climate extremely favorable, far more so than any of our American winter resorts.

Liver affections do fairly well, and I observed steady improvement in a serious case of nephritis.

Visitors must not expect to be able to keep up their milk diet in Nassau. Milk is very scarce and very poor when obtained. I discovered that several physicians had ordered patients who were in Nassau to live on milk. This simply shows what, unfortunately, I observed in many instances during my stay here and elsewhere, that physicians send their patients away from home without being properly familiar with the details of the places to which they send them. This, confessedly, is a two-edged sword which cuts both ways. It injures the physician. It infuriates the patient. A physician can easily procure all details from resident physicians in any resort. But, naturally, the reports given by such resident medical men are apt to present the golden side of the shield. This must not be forgotten. *Cum grano salis* these reports are useful. Frederick Corbett, a colored man who lives at Mackie's Corner, will supply a limited amount of honest milk at twenty cents per quart. He is not generally known, and should be engaged *sub rosa*. Cow's milk at the hotel is an extra at twenty-five cents per quart, and is poor. Condensed milk is used at table. Gentlemen have been known to send cows to Nassau for the use of wife or daughter. This is useless. There is no pasturage on the island.

The best resident physician in Nassau is Dr. W. G. Maclure. His house overlooks the hotel grounds. Educated in the University of Pennsylvania, in Dublin, and in London, he is able, and familiar with all the modern means of diagnosis and treatment. Moreover, he is a very agreeable gentleman. Dr. Kirkwood has retired from practice.

Visitors may carry with them a letter of credit, American paper or gold, or their check-book. Mr. Morton requires American currency in payment of hotel bills. American drafts are worth a premium at Mr. Lord's banking-house, next the post office. Request him to provide you with American gold, and give him three days' notice and for your check or a draft on your letter of credit he will pay the face value in American gold, and give you two or three per cent. premium besides. You lose this percentage at the hotel. The currency in use at Nassau is English silver and copper. English gold is never seen.

I had nearly forgotten to suggest that invalids who visit Nassau will improve more rapidly if they are advised to remain *indoors* for two or three days after their arrival; venture upon the balcony for only an hour or two during the next three days, and thus gradually become acclimated. Invalids should be made to understand that their first two weeks in Nassau climate may disappoint and discourage them, for the debilitating effects of the atmosphere are very exhausting at first. They should be patient and wait until they have become accustomed to the climate. From that moment they begin to improve.

There are three or four boarding-houses in Nassau. The largest, near the hotel, is said to be satisfactory. The rooms in the hotel on the third floor are much quieter than those on the story below, and more favorable for chest cases, because farther from the ground, which is always damp at night. Delicate cases should wear thin undergarments at night. There are no sudden changes of temperature, but the sensitive feel the effect of dews, which are far more profuse than one would easily believe until he had seen them.

Once or twice during the month of March, in case a sufficient number of passengers wish to go that way, Ward & Co. are willing to run their steamers, on the homeward trip, into Savannah. The fare is then the same as if one went on to New York. Otherwise visitors are obliged to reach the States by the way of Cuba, and occupy two weeks in doing so. Of course no invalid would think of going directly to New York in March, which is the month of exodus from Nassau. In my own case, not wishing my invalids to go through Cuba, I chartered a new three-masted schooner which came into the port, provided the necessary eggs, chickens, milk, beef, and fruit, and not only enjoyed a delightful run to Key West, where we were taken off by a pilot boat, but I saved at least one half the ordinary cost of going *viâ* Cuba. The captain gave up his cabin to my party, and took us across in forty-eight hours for $150. I then paid the pilot boat twenty dollars for setting us ashore. In making this arrangement it is necessary to be sure of having a *clean* schooner. Beware of old coasting vessels.

I trust my notes will be of use to physicians. They might be much more extended, but I think I have given all the necessary points, many of which would

have been valuable to me if I could have obtained them before I went to Nassau. Invalids usually begin to go to this resort in December, the majority setting out after the 15th of the month. The hotel is closed by April 30th. Invalids begin to leave the port on the 1st of March. It is well to engage rooms by the mail preceding the departure of visitors. Address Mr. Morton, Royal Victoria Hotel, Nassau, N. P., Bahamas. He is very obliging in making any change of rooms which may be desired by his guests. No telegraphic communication exists between Nassau and the main land. Mails arrive and depart twice monthly.

CASE OF HYSTERICAL HEMIANÆSTHESIA, CONVULSIONS, AND MOTOR PARALYSIS, BROUGHT ON BY A FALL.[1]

BY G. L. WALTON, M. D.

Assistant to the Department for Diseases of the Nervous System, Massachusetts General Hospital.

IT has been long known that hysteria may be brought on by trauma both in persons predisposed to functional nervous disease, and in those possessing no such tendency. The subject has acquired a special interest of late through its medico-legal bearing, and many cases are on record in which this variety of nervous disturbance has formed the basis of claims for damages after railway accident.

Attention has been recently called[2] to the importance of searching carefully for hemianæsthesia in cases of vague nervous injury following railway collision or other shock, in that this symptom is apt to persist after others have passed away, and because when found it furnishes a sign of real functional cerebral disorder whose simulation in all its details would be extremely improbable as well as difficult. This point is of the greatest practical value on account of the peculiar difficulties surrounding the investigation of this class of cases. Even in a case of simple hysteria, without apparent ground for deception, the difficulties are often great in the way of deciding just how much of the clinical picture before us is genuine, and how much is due to conscious or unconscious simulation. How much harder must this question become when thousands of dollars hang in the balance. This factor should put us especially on our guard, but on the other hand it should not be allowed to lead our skepticism too far and cause us to include in our suspicions the innocent with the guilty. The chief value of such cases as the following lies in the fact that no claim for damages exists, so that the chances for malingering pure and simple are greatly reduced, and we have an opportunity to see how a severe and lasting functional disorder may be brought on in one person by an accident which in another might give rise only to passing mechanical injuries. Our patient possesses evidently by inheritance a marked neurotic tendency. Enough cases of traumatic hysterical hemianæsthesia have been published occurring in persons possessing no such taint to show that this is by no means a necessary factor.

The name *hysterical* is perhaps unfortunate as applied to these cases, inasmuch as a certain degree of opprobrium is suggested by the word hysteria, which these cases hardly deserve, where there is a real cerebral disturbance, the exact nature of which, to be sure, we do not yet understand, but whose existence we cannot doubt, and whose symptoms we can study and classify with as much accuracy as those of any other disease. The word *functional* is perhaps preferable, in that it expresses the condition without carrying with it misleading associations.

CASE. The patient, Miss H., American, aged twenty-nine years, has been under treatment in the Nervous Out-Patient Department of the Massachusetts General Hospital for about nine months, having entered with the following history: She belongs to a family of neurotic tendency. Her mother is an extremely nervous woman. Her brother suffers from chronic rheumatic disease, affecting at present the vertebral articulations. Her father is said to have suffered from a similar complaint. There is no history of insanity in the family. She herself was always well and strong, with the exception of general nervousness and recurring sick headaches, until six years ago, when she fell down the cellar stairs, receiving severe bruises upon the back and abdomen. The accident was followed by unconsciousness lasting one week, and by confinement to bed for four and a half years. During this time she suffered from continuous pains in the back and right side, including the head, trunk, and extremities, for which she inhaled ether for some months, and afterwards took much morphia. For varying periods during this time she lost all power of motion on the right side. Sensation on the right side was wanting most of the time. Cramps, convulsions, and vomiting were frequent. The general condition gradually improved, and the motor paralysis lessened, becoming complete only at intervals. Pain in the back persisted, together with pain in the hypogastric region and difficulty in passing urine.

Physical examination on admission. Patient is a well-nourished woman, of fair intelligence and emotional tendency. All movements are slow and somewhat awkward on account, the patient says, of pain in the back. The tendon reflex is greatly exaggerated, the lightest tap causing a twitch of the whole body. The pupils are alike and react normally to light. There is great sensitiveness to pressure over the lower cervical and middle dorsal vertebræ, also at various spots on the scalp. Considerable loss of power exists in all muscles of the right side, and there is diminution of all varieties of sensation on the right side to the median line. Only heavy pressure is perceived at all on this side, and neither pricking, pinching, nor the strong faradic current causes pain. The prick of a pin draws no blood on the right. The patient is unable to distinguish movements of the elbow, wrist, or shoulder-joints with the eyes shut.

There is entire loss of *hearing* by the bone on the right, and the hearing through the air is greatly impaired, the medium voice being heard only in the immediate vicinity. High tones (tested by Blake's method) are heard up to 30,000 vibrations on the right, to 35,000 on the left. The hearing on the left is normal by bone and air. There is entire loss of the senses of *smell* and *taste* on the right. *Vision* is normal on the left. On the right all responses are slow, the visual field is retracted almost to central, amblyopia exists even for central vision, and colors are distinguished with difficulty. Long-continued effort on the part of

[1] Read before the Suffolk District Medical Society, October 25, 1884.

[2] Putnam, Boston Medical and Surgical Journal, September 6, 1884.

the patient brings the vision of the right eye gradually up to normal (a fact which alone establishes the functional nature of the anæsthesia). The optic disks are normal. No abnormality is found in the organs of reproduction.

On three different occasions within the first month of treatment at the hospital the patient presented herself with a history that no urine had been passed for two days. The catheter was passed each time, once with no result, once drawing about an ounce of rather high-colored urine, once drawing sixteen to twenty ounces of pale, clear urine of 1006 specific gravity. The patient complained each time of distressing desire to micturate but inability to do so. On another occasion the catheter, though urgently requested by the patient, was refused, external examination showing no marked distention of the bladder. The refusal was reported to have been followed by persistent vomiting, and the patient was from this time allowed catheterization whenever desired, the operation being, however, always performed by a female nurse. The difficulty persisting, the patient was taught to pass the catheter herself, which she does still several times a week.

On one visit a fairly strong faradic current was applied with one electrode in the bladder and the other on the hand. This brought on a state of tonic rigidity lasting an hour, and was therefore given up, although the patient reported a decided relief of bladder symptoms for some days after.

The convulsion produced by this operation has been many times repeated at the hospital, and is said to be of frequent occurrence at home, being brought on sometimes by mental or physical shock, but generally occurring spontaneously. At the hospital the convulsions have followed catheterization (whether performed by a doctor or by a female nurse), as well as the application of electricity, and have also come on with no apparent stimulus, mental or physical. In these attacks the patient grows gradually rigid, sometimes inclining to the right until extreme pleurothotonos is reached, and again passing in the same way into equally extreme opisthotonos. At times the patient passes gradually from one of these positions to the other. No clonic spasms or emotional attitudes appear. There is no sign of consciousness, and between the attacks the patient says that she knows nothing about them excepting that she feels their approach, and that she is very lame and sore afterwards, especially on the right side. The duration of the rigidity varies from half an hour to several hours. The inhalation of ether has only a temporary effect. The subcutaneous injection of apomorphia (one twentieth of a grain) produced on one occasion relaxation of the spasm with nausea and retching; on a second trial the same dose proved inefficacious. Pressure over the ovarian region on the right side during the convulsions is generally followed by relaxation of the spasm.

On two occasions the patient has presented herself with œdematous swelling of the right ankle and wrist, without redness, sensitiveness, or special discomfort on motion. No evidence of cardiac or renal trouble was found, and the swelling passed off each time in a few days without treatment.

About five months after her first appearance she suddenly lost the use of the right arm completely, and the paralysis has persisted up to the present time.

The patient being encouraged to attempt rhythmic movements of both wrists, concentrating the will upon the right while restraining the excursion of the left, gradually regains mobility of the paralyzed member, another demonstration, hardly needed, of the functional character of the paralysis.

The patient's general condition has gradually improved, the pains are now less severe without morphia than they formerly were with it, although the drug was not given up without a hard struggle. The bladder symptoms are less distressing, the patient looks brighter and feels better. The hemianæsthesia persists. The convulsive attacks are much less frequent.

DOUBLE INGUINAL HERNIA IN A MALE INFANT THIRTY-EIGHT DAYS OLD — STRANGULATION ON THE LEFT SIDE — HERNIOTOMY.[1]

BY L. W. STEINBACH, M. D.,

Adjunct Professor of Anatomy and Surgery in the Philadelphia Polyclinic.

The subject of my remarks, a male infant, was born on September 2d of the present year, at the beginning of the ninth month of utero-gestation. During six weeks preceding labor the mother was confined to her bed or room on account of hæmorrhages, due to partial placenta prævia. The infant was feeble and bore evidence of premature birth by its general debility, rather than by any specific sign of incomplete development. I estimated its weight at about five pounds. Within two days the child became jaundiced, but his condition otherwise, as well as that of the mother, was sufficiently favorable for me to cease paying regular visits after the tenth day.

On the morning of October 11th the father called and requested me to see the child, because it had been unusually restless during the night, and because the mother had noticed a swelling in the groin the previous evening.

Thinking that this swelling, as described to me by the father, might be a rupture, I visited the child without delay, and on rapid inspection found a deeply jaundiced little patient, not markedly increased in size since birth, with a tumor in each inguinal region, so that the pubic region resembled a mons veneris, with the adipose tissue well developed. As this, however, was not likely to be the case in so poorly nourished an infant, I continued my examination by manual palpation, and felt on each side a firm swelling, which reached up to the respective external inguinal ring, and extended obliquely downwards and inwards into the scrotum to the extent of more than two inches. The tumors were hard, and only slightly elastic, but in neither one could I locate the testicle or separate it from the rest of the tumor.

It will appear that the diagnosis must have been easily arrived at, because there are but few pathological conditions likely to be found in an infant that would resemble this, other than hernia, or perhaps hydrocele. Yet, fearing to exert pressure upon such tender structures in order to satisfactorily outline the testicles, I entertained some doubt whether I was really dealing with a case of double inguinal hernia, for which there existed the speculative causes of congenital debility, a patulous canal, and above these an impediment to the easy evacuation of the bladder in the existence of phymosis.

[1] Read before the Philadelphia County Medical Society, November 19, 1884.

I informed the parents that I believed the child to be suffering with a double hernia, and that I would make an attempt to reduce it.

The amount of manipulation which I considered to be safe not having lessened the size of either tumor, and there being no urgent symptoms, I left with the promise to return towards evening of the same day, with instructions to the mother to note carefully whether the child urinated or had a fæcal evacuation. At my evening visit I learned that the child had had no passage since the preceding day, that it passed but a small amount of urine, and was disinclined to nurse. I now renewed my attempts at reduction, and succeeded in returning the protrusion on the right side into the abdominal cavity, the testicle remaining in the scrotum. Only at this juncture did I become positive of my diagnosis. My exertions to reduce the tumor on the left side proved unavailing. In order to ascertain whether I could induce an evacuation of the bowels without endangering the child's condition I inserted a small cone of soap into the rectun. This met with prompt response from that organ, and together with the soap a small amount of inspissated mucus, intermixed with or, rather, discolored by fæcal matter, was expelled. This convinced me that a constriction existed somewhere in the intestinal tract. Placing a small compress over the right external inguinal ring, and securing it by a bandage, in order, if possible, to prevent a recurrence of hernia on that side by straining in the act of micturition, I left my patient.

In the morning and again towards evening of the following day attempts made at taxis were unsuccessful. Constipation, scanty urination, and refusal to take the breast continued until the third day, when I consulted with Dr. John B. Roberts, who concurred in the diagnosis of strangulated hernia.

After some manipulation, which somewhat reduced the tumor in size and seemed to relieve the symptoms, it was agreed to postpone operative procedure until more urgently required. Towards evening of the same day the vomiting which had existed before became more pronounced, and the copiously-emitted substance in its consistency, color, and odor resembled fæcal matter.

About noon of October 14th, and therefore the fifth day after the symptoms of hernia were first noticed, and when the child was just six weeks old, an anæsthetic (ether) was administered, and the last, but unsuccessful, attempt at reduction having been made, I proceeded, with the material aid of Drs. Roberts, O'Hara, and other gentlemen, to perform herniotomy.

Making an extensive incision through the tegumentary structures and subsequently dividing two additional layers of investment to the hernia, a sac was reached, which was hard to the touch, and distended by fluid contents. A puncture of this sac and evacuation of its sero-sanguinolent contents by means of a hypodermic syringe caused its partial collapse, and a trial was made to return the protrusion into the abdominal cavity. This attempt proving ineffectual the hernial sac was incised. This laid open to view a coil of small intestine of a purplish-red hue, and below it the testicle and the epididymis. This last peritoneal investment was the tunica vaginalis testis, and consequently formed the true hernial sac.

Even now an obstacle to the return of the intestine presented itself at the constricted neck of the sac. The tender age of the patient and the delicate and small structures involved necessitated the employment of the ophthalmic surgeon's canaliculus knife, in place of a Cooper's hernia bistoury, whilst a small grooved director served the purpose of a hernia director until an incision enlarged the opening to a sufficient extent to permit of the insertion of Levis's hernia director. The hernia was of the oblique variety, and after extensive enlargement of the external inguinal ring over Levis's director the intestine was returned into the abdominal cavity.

The interrupted wire suture was now employed; the first and second stitches penetrating all structures from without into the abdominal cavity, approximated the edges of the external abdominal ring. A strip of rubber tubing was inserted, to favor drainage. The loss of blood was insignificant in amount. Antiseptic precautions were observed, by using a solution of corrosive sublimate for the hands, sponges, and towels. whilst the instruments were kept immersed in carbolized water. An existing phymosis, which was regarded a factor in the production of the herniæ, was corrected at the same time.

A few hours after the operation the child had a normal passage; the urine which was voided contained a dark-green sediment, which remained as stains on the napkin. The child took the breast readily, and appeared in no way to be disturbed by the operation. Primary union took place throughout the extent of the wound, and the drainage-tube was removed on the third day, after which the small orifice thus left also closed. No symptoms of peritonitis, or inflammation elsewhere, appeared; the pulse was better than before the herniotomy; the excretions continued regular, and everything gave promise of a favorable result except that the babe did not gain strength, and the jaundice became rather more pronounced. On the fifth day after the operation the child died, and I have good reason to believe the cause of death lay elsewhere than in the the herniæ.

Not the rarity of the affection induces me to present this case to your attention, but rather my belief in the propriety of performing the operation even in so young an infant. I am not conversant with the literature of the subject, and do not know whether a few or many cases are recorded, but my observations of this one case causes me to make the deduction that the operation should be performed unhesitatingly whenever indications for it exist; and I believe that the more rapid reparative process existing in infancy gives an even more favorable prognosis than the same operation performed on the adult.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

C. M. GREEN, M. D., SECRETARY.

OCTOBER 25, 1884. The President, DR. JAMES C. WHITE, in the chair.

DR. AMORY read a paper on

THE MANUFACTURE OF OIL OF CADE,

and in this paper mentioned the fact that Dioscorides used this medicinal agent in his time. Since then its periods of use have been inconstant, until Hebra re-

vived its use about the year 1865. Dr. Amory visited the sections in Southern France where it is chiefly manufactured, and stated that the oil of cade is a mixed tarry product from the distillation *per descensum* from the roasting in crude earth ovens of all parts, but chiefly the dry wood, of the *Juniperus oxycedrus*, which grows in the Department of the Var among the hills and distant from the towns and cities of Southern France, namely, Toulon, Marseilles, and Nimes. The oil or tar is sold just as it is delivered by the peasants, and without purification. Its chief distributing depot is Nimes, near which place it has been used for years as a sheep wash to get rid of sheep itch (La Gâle); it does not injure the sheep or their wool, and cures this troublesome cutaneous disease in that animal. Its adulteration is hardly probable in view of the cheapness of manufacture and the consequent want of encouragement in the substitution of other tars. Samples were exhibited of the oil of cade sold in Vienna, in New York, and directly from a firm in Nimes, M. Saguier et Fils. The physical appearances of these specimens hardly differed from each other. Another sample of oil of beech (Oleum Betulæ) was also exhibited, whose physical appearance was distinctly different, and could hardly be mistaken for the commercial oil of cade. Since there is no known test for the purity of such a homogeneous mixed tarry product as the oil of cade there could be no advantage in putting this substance of indefinite and unknown chemical character in the official list of the United States Pharmacopœia, and hence its omission from that official work. A specimen of oil of tar which has a definite character, and is recognized in that Pharmacopœia by tests of its specific gravity and chemical reaction, was also exhibited for comparison with the unofficial oil of cade. The amount of oil of cade manufactured and sold at Nimes is not very considerable.

Dr. Amory asked if oil of tar possessed the same value as oil of cade as a parasiticide.

Dr. White had never used oil of tar.

Dr. Greenough believed that oil of cade possessed no special advantage over oil of tar, except in not having so bad a smell: he had never used oil of tar.

Dr. G. L. Walton reported

A CASE OF HYSTERICAL HEMIANÆSTHESIA, CONVULSIONS, AND MOTOR PARALYSIS, BROUGHT ON BY A FALL.[1]

In reply to a question by Dr. E. W. Cushing, Dr. Walton said that there was no displacement of the uterus or other evidence of local injury which could give rise to reflex symptoms.

AMPUTATION AT THE HIP-JOINT.

Dr. Bradford showed a boy on whom the operation of amputation at the hip-joint had been performed a year before for extensive disease of the hip-joint and pelvis; some sinuses remained still discharging from the caries of the ilium, but the boy had doubled in weight since the operation, and was now in excellent condition.

Dr. A. T. Cabot said that the firm condition of this stump was of interest apropos of a case reported by Mr. Shuter to the London Clinical Society,[2] in which he had performed subperiosteal amputation with the production of a long stump with a hard core, presumably of bone. This patient could wear an artificial leg comfortably, and could walk a considerable distance upon it without much fatigue.

This result is of great interest when we consider that of all the cases of successful hip amputation in our late civil war not a single patient has been able to wear with comfort a prothetic apparatus.

Dr. H. C. Haven reported a Probable Case of Pernicious Anæmia in a Child: the paper was reserved for publication.

CONGENITAL ARREST OF DEVELOPMENT.

Dr. J. P. Reynolds alluded to a case of congenital arrest of development he had recently seen in a newborn infant. The child was well developed, except in the median line of the face: there was depression of the superior maxillary bone, double cleavage of the roof of the mouth, strabismus of both eyes, and constant trismus. The infant seemed likely not to survive long.

ENCEPHALOID KIDNEY.

Dr. A. P. Weeks exhibited an encephaloid kidney, weighing nearly four pounds, which he had removed post mortem from a woman sixty-two years of age. There had been progressive failure of strength and, for the past few months, inability to retain food: there was no pain. Examination of the urine gave negative results, there being no blood and no albumen. No tumor had been discovered before death: consciousness was lost only at the last. The autopsy revealed the encephaloid mass, which was not adherent, and might have been removed by operation; the other kidney was healthy.

Dr. C. P. Putnam alluded to a case of scirrhous kidney, lasting two years, in which there was no albumen in the urine, but sometimes sugar. A tumor of almost the same shape and size with that exhibited by Dr. Weeks could be easily felt extending one inch across the median line. There was also some disease at the apex of the right lung, and atheroma of the aorta.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

The Society held its twenty-third regular meeting on the evening of November 20th at the house of Dr. Jelly, Dr. Fisher occupying the chair.

Dr. J. B. Ayer read the regular paper of the evening, entitled

A CASE OF CEREBRAL EXHAUSTION (IN THE EARLY AND RECOVERABLE STAGE) FOLLOWING NEURALGIA AND OVERWORK,

of which the following is a summary:—

The patient, now thirty years of age, has been a hard-working business man during the past ten years. He has never been robust, but there is no hereditary tendency to nervous or other forms of disease. Although he has suffered from neuralgia of the scalp, with accompanying dull feelings in the head, during the past seven years of our acquaintance, he has always been able to attend to business up to last February, when he was prostrated by an attack of influenza of a fortnight's duration.

In April he suffered severe pain from an attack of herpes zoster, and in July from neuralgia of the forehead.

[1] See page 558 of this number of the Journal.
[2] British Medical Journal, February 17, 1883.

During the preceding year his responsibilities had worn upon him, but he had been benefited by business trips.

He gradually regained strength after the attacks of influenza and herpes zoster, but the neuralgic attack of July was followed by physical prostration and the symptoms of a *tired brain*.

On the seventeenth day from the commencement of the neuralgic attack he was able to go to the sea-shore, and soon found that he could sleep a few hours without sedatives. He no longer complained of pain, but of a "dull, tired feeling," generally referred to the top of the head. Conversation, and all forms of exercise, tired him; the night sweats were debilitating.

Gradually the "gloomy, indescribable feelings" troubled him less and less. At times he would have a good day and feel badly in the evening.

The dull feelings came suddenly and went suddenly. He was quite depressed during their continuance, but the moment they disappeared he was again in good spirits and feeling well. The mind was always clear, and there was little heat of the head. In sailing he found the best diversion.

Ten weeks from the commencement of the neuralgic attack found him still troubled two or three hours of the twenty-four with the "dull, depressed feelings," but he was able to read, write, and converse without exhaustion.

He went on two occasions to his office, and found that he could attend to business and to complicated figures for an hour or two, but was very tired afterward.

Now that his physical condition had improved he worried about the slowness of the mental recovery, for formerly he had rallied quickly after an attack of neuralgia. Dr. Jelly at this time saw him with me, and assured him that the disease was functional, the slow recuperation of the brain-cells in the present attack being explained by extreme debility following overwork and three recent acute attacks of disease.

He tried a sea trip, and returned in five weeks much improved in every particular. Still he complained of disagreeable feelings in the head, — sometimes of distention, but generally of a dull feeling which he could not describe satisfactorily.

As his physical condition was excellent I felt that I ought not to advise him to remain idle, as I knew that he would worry about himself unless his mind were kept occupied.

At the end of fifteen weeks from the commencement of the neuralgic attack he began to attend again to his business duties, promising to favor himself, and to spend several hours daily in recreation. He is now recovering satisfactorily, and will, I trust, in a few months be well.

In remarking upon the case Dr. Ayer said: "Cerebral hyperæmia does not seem to me to explain this condition of the brain. I would agree with the review of Dr. Hammond's work in the *British Medical Journal* for 1880: —

"Hyperæmia may be *one* of the conditions present, this we have long looked upon as probable, but we are inclined to think that the main factor in these cases is impaired nutrition of the brain through exhaustion of the nervous elements."

Radcliffe says "there is no good reason for thinking that any one symptom points to cerebral congestion. I can find no better name for this disease than brain-exhaustion."

As Fothergill says: "Man has a reserve of force like the balance of a prudent firm at its bankers. If this is too far drawn upon a sudden demand becomes a very serious matter." He is also correct when he says, "A mind at once powerful and coarse of fibre has a great advantage as regards sheer endurance over another mind of finer fabric."

Dr. Ayer raised the question whether brain exhaustion was specially induced by cranial neuralgia, and stated that he believed that *functional* brain disease could be favored by the intense fears and worries of a patient with an aching scalp.

The responsibility of the physician was dwelt upon. He must win the patient's confidence, and, remembering that a neurasthenic patient always looks upon the gloomy side, he must constantly cheer him, and encourage him to make light of his gloomy, depressed feelings. "Every man," says Fothergill, "should strive with all his might to maintain the supremacy of the will over his volitional and emotional conditions. He must resist with what power and energy he possesses the demon force which is striving to enslave him if he wish to remain a freeman. Whenever bodily disease shall have enervated the mental powers or palsied their energies, then subjected morbid ideas will rise in active revolt, reinvigorated and inspired by the hope of success. A clear comprehension of this matter will give confidence and inspire hope in every one who has fought the battles of these emotional civil wars." The physician cannot too thoroughly understand that his patient's recovery may depend upon his words of encouragement.

As to the resumption of business duties, it may be necessary, if the patient is tired of travel and of idleness, to allow him to gradually resume work before he has fully recovered, provided he is physically strong; otherwise the morbid feelings may succeed in securing control over him.

In the discussion which followed the reading of Dr. Ayer's paper DR. WEBBER said that he thought that Dr. Ayer had not laid quite stress enough on the pain accompanying neuralgia. It is not the neuralgia in the head alone, but pain from neuralgia in any part of the body which is exhausting in its effects.

In these cases of nervous exhaustion one of the most difficult problems to solve is when the patient is in condition to return to work. Patients may get hypochondriacal when they have nothing to do but watch themselves, yet they may not be in condition to bear much mental strain. Foreign travel is often too great a strain, accompanied as it usually is with too much variety and change of scene, and patients easily overdo themselves. He usually tried to discover any tastes outside of their routine business they might possess, and in moderation to gratify these tastes. He had found that unless patients were very much broken down it was hard for them to do nothing.

DR. WHITTEMORE had found travel of very considerable benefit in two recent cases he had had. In the first case the patient had not been out of Boston for eighteen years. He slept little, and was depressed. After much difficulty he was made to leave Boston first for a short time, and then for a longer period, and he had gradually recovered. The second case owed his recovery to a journey to Europe.

Dr. Whittemore thought it well to encourage young men to go hunting and fishing, as nothing was better to establish health than an out-door life. Young

women, he thought, were also often benefited by a similar life.

DR. TUTTLE asked if such a case as Dr. Ayer had described might not degenerate into a case of melancholia if not recognized early.

DR. FISHER said that as far as his experience went cases of nervous exhaustion were not apt to end in melancholia though they remained for a long time in a threatening condition. In the city lunatic asylum he had several patients under his charge who were in a condition which might be regarded as the extreme type of nervous exhaustion, sometimes called *struporous* insanity. Most of the males were masturbators; one was a case of katatonia. Of the females two suffered from dysmenorrhœa, and in these cases pain seemed to exert an important influence as a causal element.

DR. CHANNING said that he agreed with Dr. Fisher that nervous exhaustion was rarely followed by melancholia. The former seemed to be a slowly arrived at change, essentially chronic, while the latter followed disease or some moral shock.

DR. WEBBER said that he remembered only two cases of melancholia supervening on nervous exhaustion. In both of these cases grief seemed to be the cause of the depressed condition.

DR. WHITTEMORE asked if the asylum physicians present were in the habit of feeding their patients on large quantities of food.

DR. STEDMAN said that he had given a patient twelve eggs a day, after the plan of Dr. Clouston.

DR. CHANNING had given fifteen eggs with two gallons of milk.

DR. WHITTEMORE said that a male patient at the Massachusetts General Hospital, with abscesses of the legs, had taken thirty-seven eggs in addition to a liberal general diet.

DR. JELLY said that he had noticed that patients taking large quantities of milk had unusually large fæcal discharges.

DR. WHITTEMORE and others had noticed the same thing.

DR. WEBBER said that he had tried experimentally to ascertain how much milk was required to sustain life while performing its regular duties, and he had found that he could do his own work on five quarts of milk a day.

DR. FISHER stated that he had lived for three months on milk and crackers.

DR. WEBBER, in answer to a question of Dr. Channing, said that he rarely put cases of nervous exhaustion to bed, and fatted them on milk. A modified plan of this treatment he had confidence in.

FACIAL NEURALGIA.

DR. AYER asked if the gentlemen present had used menthol in cases of facial neuralgia. He had had satisfactory results with a mixture of one part of menthol to ten of alcohol.

DR. WHITTEMORE spoke of a successful case in which the essential oil of peppermint had been used.

DR. JELLY had had partial success.

DR. WEBBER spoke of a proprietary remedy for neuralgia which was only menthol.

CAUSE AND TREATMENT OF APOPLEXY.

DR. JELLY asked the opinion of the Society in reference to a patient he had lately seen. This patient, a male of about fifty, has recently had a light attack of apoplexy, of which the chief indications now are slight impediment in speech, exaggerated patellar reflex, and slight mental weakening. Could a chancre which the patient had thirty years ago be responsible for these symptoms? Would antisyphilitic treatment be desirable?

The Society doubted as to the answer to the first question, but agreed that antisyphilitic treatment was entirely justifiable.

DR. FISHER described the case of a lady of sixty-five, who, a year or two ago, had a slight apoplectic seizure followed by one-sided facial paralysis. Within two months another attack occurred in which the facial muscles were drawn to the other side of the face. A month ago there was a third seizure, affecting the muscles of deglutition. The patient was unable to swallow solid or liquid food, and when Dr. Fisher saw her she had taken no food by the mouth for ten days. A few rectal injections had been given her. He was able to introduce liquid nourishment with the nasal tube, and at the end of a week she was able to take food herself, and continues to do so.

The question of location of the lesion was interesting in this case. At first he thought it might be bulbar paralysis, but he had lately seen a somewhat similar case ascribed to a bilateral lesion of the lenticular nucleus.

SEVENTH, EIGHTH, AND NINTH ANNUAL REPORTS MADE TO THE BOSTON MEDICAL LIBRARY ASSOCIATION ON OCTOBER 7, 1884.

BY JAMES R. CHADWICK, M. D., LIBRARIAN.

IT gives me pleasure to announce the uninterrupted prosperity of the library and building committed to my charge.

In the three years which have elapsed since my last printed report (sixth) the total number of volumes has increased from 10,123 to 14,699 volumes, being at the rate of 1588 volumes a year. The number of pamphlets has increased from 5678 to 12,289.

I would call your attention to the amount and value of the work that has been done to render your collection most serviceable to those who consult it. The task of collating and classifying the books and pamphlets, which has been most thoroughly done by Mrs. Collins, was completed in 1883. The expense of this great undertaking was defrayed by the late Dr. Calvin Ellis, whose total donation on this account amounted to more than a thousand dollars. The cross-references in the catalogue have been revised by Drs. J. W. Farlow, E. H. Bradford, A. Post, E. G. Cutler, J. B. Ayer, G. B. Shattuck, A. N. Blodgett, and myself. During the past year Mrs. Collins has, by direction of the Executive Committee, collated and catalogued the accessions to the library, so that the whole collection is now available for consultation. Dr. F. H. Brown has voluntarily undertaken to arrange and classify the large collection of catalogues of medical schools, annual reports of hospitals, dispensaries, etc., etc., which have hitherto been in a chaotic state. To him and to the other coadjutors mentioned are due the warm recognition of the Association.

A special department of the library in which your librarian has taken much interest of late is the collection of autographs. This originated in the very choice lot of medical letters addressed to Gov. John Winthrop, Jr.; it has since been enlarged by several hun-

dred letters from the correspondence of your librarian; by nearly two thousand autograph letters given by Dr. Edward Jarvis, which had been received by him during the sixty years of his professional activity; by some very interesting letters relating to the discovery of surgical anæsthesia from Dr. Benjamin Cushing; and, finally, by 128 letters from many distinguished physicians presented by the Hon. Nahum Capen, LL. D. Further contributions of documents, letters, etc., of medical interest are earnestly solicited.

Many hundreds of these papers have been cleaned, pressed, and mounted, free of expense to us, by Dr. and Mrs. J. H. S. Fogg, of South Boston. The remainder are being mounted gratuitously by patients of your librarian, an occupation which has proved of great therapeutic value to the persons thus engaged.

Without attempting to specify the source from which has been derived all our accessions, several donations call for mention. In the three years covered by my report we have received by bequest of the late Dr. Thomas B. Curtis his library of over 500 volumes and a large number of pamphlets, a collection specially rich in standard works and monographs, chiefly French, relating to surgery and genito-urinary diseases; from his widow, Mrs. H. Regina Gray, the library of the late Dr. F. H. Gray, consisting of 85 volumes; from his widow, the library of 194 volumes which belonged to the late Dr. James Morrison, of Quincy; from the publishers, William Wood & Co., of New York, their Standard Medical Library for four years, amounting to 48 volumes; from Miss L. Prince, 129 volumes from the library of her brother, the late Dr. W. H. Prince, of Newton; from his widow, the library of the late Dr. A. B. Bancroft, of Boston, numbering 279 volumes; finally, from his sister, Miss Lucy Ellis, carrying out his often-expressed intention, the library of the late Prof. Calvin Ellis, of Boston, consisting of 698 volumes, and constituting one of the most valuable lots of books that our library has received.

The expense of binding all the unbound books in the library of Dr. T. B. Curtis was defrayed by his brother, Mr. Lewis Curtis; and of those in the library of Dr. Calvin Ellis by his sister, Miss Lucy Ellis.

By an arrangement recently made by your librarian with the Faculty of the Harvard Medical School we have received all its collection of periodicals and a great portion of its general library, with the understanding that the Faculty of the School has the privilege of taking in exchange from our present accumulation of duplicates such books as the School wants to fill up its special libraries to be maintained for the use of its several laboratories. By this exchange we have been able to complete many files of the older periodicals, and add several hundred volumes of old standard works to our shelves.

By frequent visits to the medical libraries of other cities your librarian has been able to effect many exchanges, by which our files of periodicals have been largely augmented and in many sets completed. We are especially indebted to Dr. J. S. Billings, of the Surgeon-General's Library in Washington, for liberality in sending very many numbers of journals, all wanted in our files, upon exchange account, and to Dr. F. H. Sheppard, librarian of the Medical Department of McGill University in Montreal, for a like liberality in giving us nearly a thousand numbers of journals without immediate return. This wise and generous spirit is in marked contrast with the narrow policy of a few of the medical libraries who hoard their stores of duplicate periodicals on the mistaken idea that they have, or will come to have, a market value. My plan has been to practice the utmost liberality in the matter of exchanges, which has, I believe, inured to the ultimate benefit of our library.

The collection of medical portraits in our Hall has received several notable additions. A fine portrait by Vinton of the late Dr. T. B. Curtis has been intrusted to our safe-keeping by its owner, the Society for Medical Improvement. A bust, in plaster, of Dr. Benjamin Waterhouse, by Jackson, has been presented to us by Dr. H. P. Bowditch. A bust, in bronze, of the late Dr. J. Marion Sims, by Dubois, has been offered us through your librarian by an anonymous patient and friend, which will be received within a week. From his widow we have been the recipients of a large, handsomely-framed photograph of the late Dr. Samuel L. Bigelow, late of Paris, France, formerly of Boston.

The increase in the income of the Association during the past year has enabled the Executive Committee to authorize the expenditure of a larger sum of money than heretofore for its varied purposes. Twelve hundred and seven volumes have been bound. The drains of the house have been put in thorough repair at a cost of about $400. The system of heating and ventilation, which had proved defective in the past, has been overhauled and modified during the past summer under the direction of Prof. S. H. Woodbridge, of the Massachusetts Institute of Technology, whose system for heating and ventilating the new building of the Institute has proved such a marked success. To Mr. Thomas Windsor, formerly librarian of the Medical Library of Manchester, England, we are under many obligations for purchasing for us, at very low cost, the volumes which were needed to complete our sets of the Reports of the London Hospitals, full sets of the Transactions of the Pathological Society and of the Clinical Society of London. These accessions fill a gap that was often felt. The same increase in available funds has made possible the purchase of many recent publications, which have been assigned to a newly created department of our library, the Circulating Department, which has been organized by Dr. W. L. Richardson, as a sub-committee of the Executive Committee, to whom the Association is indebted for the gift of a revolving book-case for its accommodation.

By the plan adopted, all new books, bought for the library, may be taken out by members of the Association at the rate of five cents a day. Fifty-one volumes have been added to this Department between January 24, 1883, and October 1, 1884. Ninety-six volumes have been loaned to forty-two readers. By this scheme the convenience of readers has been met, and a portion of the cost of purchasing the books has been returned to the library.

The subjoined report of Dr. F. C. Shattuck, chairman of the Committee on the Directory for Nurses, displays most strikingly the admirable features and efficient management of that department of our institution.

Finally I have to assure you of the efficient coöperation of all your officers to promote the usefulness of your library to its members, to the profession, and to the public.

Subjoined will be found a statistical report of the present condition of your library prepared in conformity with the previous reports by Dr. E. H. Brigham, assistant librarian.

Periodicals.	Sixth Annual Report, 1880-81. Volumes.	Ninth Annual Report, 1883-84. Volumes.	Increase, Volumes.
American	1992	3677	1685
English	1344	1681	337
French	532	1035	503
German	532	1038	506
Canadian	69	88	19
Other foreign	102	197	95
Periodicals	4571	7716	3145
Encyclopedias	532	871[1]	
Books	4391	6012	1621
	9494	14,099	
Vital Statistics of Library of the Statistical Society	629	700	
Total in Reference Library	10,123	15,499	5376
Pamphlets	5678	12,289	6611

[1] Duplicates excluded.

The duplicate library of books and periodicals for home reading has been reduced by greater discrimination from 2266 volumes in 1880–1881 to 430 volumes in 1883–1884.

Journals and Transactions received regularly.	Sixth Annual Report, 1880-81.	Ninth Annual Report, 1883-84.	Increase.
American	173	192	19
Canadian	5	4	–
Australian	1	2	1
English	23	31	8
French	28	34	6
German	36	45	9
Other foreign	20	20	–
	286	328	42

BINDING.	Volumes.
Library, 1882	5
Library, 1883	174
Library, 1884	657
	836
Observation Society, 1882	47
Observation Society, 1883	44
Observation Society, 1884	41
	132
Curtis Library, 1882	215
Ellis Library, 1884	30
Total number of volumes bound in three years	1207

REPORT ON THE DIRECTORY FOR NURSES, 1883–1884.

The work of the Directory has gone on smoothly during the year, and it is gratifying to note that the number of calls from beyond the limits of Boston is increasing as the merits of the Directory become more widely known. Physicians find that it is much easier to telegraph to us for a nurse than to hunt one up at home.

The whole number of nurses registered since the Directory was opened is	621
Died or dropped	14
Now registered	607

They are classified as follows: —

Female nurses, non-graduates of training schools	380
Female nurses, graduates of training schools	155
Masseuses	9
Male nurses	60
Masseurs	3
	607
Number of nurses furnished during the year	1143

FREDK. C. SHATTUCK, M. D.
Chairman of Sub-Committee on Directory for Nurses.

Recent Literature.

Diseases of the Nose. By CLINTON WAGNER, M. D., Professor of the Diseases of the Nose and Throat in the New York Post-Graduate Medical School, Senior Surgeon Metropolitan Throat Hospital, Fellow of the American Laryngological Association, etc. With Illustrations of Instruments and Pathological Conditions. New York: Bermingham & Co. 1884. Price $2.50.

Notwithstanding the fact that this book is based upon an experience of fourteen years devoted exclusively to diseases of the throat and nose, we meet with not a few statements among the good things contained in it which we think will not be accepted by all workers in the same field. Speaking of rhinoscopy in the preface, the author surprises us by saying that any one competent to make examinations properly by the present known methods, and who has a fair knowledge of the anatomy of the parts, requires no special skill or training for performing the operations on the nose daily undertaken by specialists; and on page 47 we learn for the first time that the examination of the posterior nares is one of the most difficult manipulations known to surgery. Hitherto we had supposed that any one of average ability could be taught in a few minutes how to examine the posterior nares (the correct interpretation of what one sees is quite a different matter), while the operations on the nose, we believed, *did* require special training, and could be performed as they ought only by the experienced specialist. We commend, in the main, the portions of this volume which relate to the treatment of the various diseases found in the nasal cavities, and they show that the author is a careful and good practitioner; but the work as a whole, we regret to say, is so carelessly put together and so shockingly illustrated that it will wound the feelings of every one who has any respect for the nose. Never before have we seen so many wretchedly-executed wood-cuts collected together in a single volume. We doubt if Boston's champion pugilist could more effectually pound a nose beyond all hope of recognition than is the curious picture (presumably of that organ) on page 12. Figs. 1, 3, and 5 are almost equally incomprehensible. Nearly an entire page (136) is devoted to a cheap wood-cut which means absolutely nothing, nor is it a likeness, we are sure, of anything that is in heaven above, or in the earth beneath, or in the water under the earth. The typographical errors, moreover, are simply inexcusable. Professor Schiff figures in the text (page 29) as *Shift*. Our old teacher Zuckerkandl and his classical work are referred to (page 25) as Zùcherkarel, E. — Zùr Anatomie ùnd Pathologie der Nasenhöhle, Wien, 1880; really this is too bad. We find these little accents scattered through the book in the most unexpected places, and they impress us as if some one had taken them between the thumb and forefinger and snapped them in anywhere, regardless of their signification. The volume ends with a Bibliography, and here again errors of omission and commission follow each other with such startling rapidity that it must be thoroughly revised to prove of any value. The following is one of many puzzles which occur on page 239: Busheh, Behandlung der Sogenanten Ozæna. Litzungst. d nied rhein — a bold abbreviation, indeed, of "Sitzungsberichte der niederrheinischen gesellschaft für Natur

und Heilkunde zu Bonn," to say nothing of the misspelling of the proper name, and the absence of any date or number of volume. But we are glad to be able to part with this volume with a word of praise. It has a very neat and attractive cover. We gain encouragement, also, from the motto — *Ne tentes, aut perfice* — which we find on the title-page, and we earnestly hope that advantage will be taken of the rich opportunity which this book affords for its practical application, so that a future edition may come somewhere near being worth the price asked for it. F. H. H.

The Atlas of Female Pelvic Anatomy. By D. BERRY HART, M. D., F. R. C. P. E. Lecturer on Midwifery at the School of Medicine, Edinburgh. New York: D. Appleton & Co. 1884. (With a Preface to the American edition by Dr. Alexander Skene.)

We regret our delay in noticing this work, which both from the originality of its design and the success of its execution will occupy a high place. It appears to have been Dr. Hart's intention to present a series of pictures that should show so clearly the points at issue that any long description or discussion would be superfluous. In this he has been very successful. He has had the advantages of study in Germany and familiarity with German methods which he turns to good account. The work is, however, not without faults. One of them is its division into curiously arbitrary sections. The first, comprising seventeen plates, is called Descriptive; the second, Dissectional; the third, Sectional and Topographical; the fourth, Structural and Genu-pectoral Anatomy; the fifth, The Cervical Canal during Pregnancy and Parturition; the sixth, Microscopical Anatomy. Excepting the last two all these divisions seem entirely artificial. The plates are in part original, in part taken from various authorities always with due acknowledgment. We are inclined to consider that Dr. Hart has been rather too free in his selection, reproducing several that add little to the value of the work.

We will now pass quickly in review the chief features of the work. Plate I. presents the bones and ligaments of the pelvis, and we must own that we are rather surprised at Poupart's ligament in Figure 2, which seems to us to include a good deal of the aponeurosis of the external oblique.

In the description of Plate II. we find that, following Henle rather than English anatomists, Dr. Hart describes the nymphæ as covered with skin instead of mucous membrane.

Plate III., representing various forms of the hymen, is poorly executed.

In Plate IV. Dr. Hart reproduces, if we mistake not, one of his own plates showing the vagina as a slit and not as a tube as it is frequently represented. He gives the posterior length as three and one half inches and the anterior one inch less.

Plate V. has a figure from Pirogoff showing a frozen section of a distended bladder and rectum. The following plates contain figures from the works of Rüdinger, Bourgery, Jacob, Hyrtl, and others, showing many of the less well-known points of the anatomy of the pelvic organs. The views indicating their immense blood supply are particularly instructive. We regret that among them is a figure from Polk showing a cylindrical vagina in direct contradiction to the author's teaching, and a similar monstrosity by Schultze occurs later. We cannot see why a plate showing lymphatic enlargement in malignant disease should appear in this section or indeed in the work.

In the third section there are admirable frozen sections demonstrating the relations of the pelvic peritonæum in various conditions.

With regard to the disputed question of the position of the uterus and the annexa, Dr. Hart declares one might as well attempt to give the position of a pendulum in motion. As for the ovaries he simply says that they lie behind the broad ligaments at the level of the pelvic brim with their long axes varying in direction. We may mention that our author has declared in an earlier part of the work that the idea of the fimbriated extremity of the tube grasping the ovary during menstruation is imaginative.

Hart divides the floor of the pelvis into the movable and immovable portions; the former extends from in front to the anterior border of the rectum and as far out as the edge of the levator ani; the fixed portion is the remainder. "Neither the perineum, nor the perineal body, nor the posterior vaginal wall alone support the uterus and abdominal viscera. They do so only as parts of the entire fixed portion of the pelvic floor. Thus the uterus, abdominal viscera, and the entire displaceable part of the pelvic floor rest on the entire fixed portion, that is, do not rest on the perineum or perineal body alone."

The effect of the genu-pectoral position is discussed and illustrated by two frozen sections of the body from the top of the head down.

Dr. Hart's views on the contraction of the bladder are rather curious. He had already shown by frozen sections of his own and from those of others that the female bladder may be found empty in either of two positions. One is such that a median section shows the cavity of the bladder and urethra in the shape of a Y, the upper vesical wall resting within the lower. In the other form the anterior and posterior walls are in contact, but a great difference is that in the latter case the walls are very thick and in the former they are thin. From this Dr. Hart concludes that as the bladder contracts it assumes the latter form and subsequently relaxes into the former, which he rather unnecessarily, to our thinking, compares to a systole and diastole.

The author quotes American as well as European writers — Dr. Chadwick on the rectum and Dr. Ranney on the pelvic fasciæ.

The book is a large quarto, very finely printed, and the plates are excellent, with perhaps one or two exceptions. It will add to the author's reputation, and rank among the standard works on the subject.

T. D.

Pathologie und Therapie der Frauen-Krankheiten nach den in den Feriencursen Gehaltenen Vorträgen. Bearbeitet von DR. AUGUST MARTIN, Docent für Gynäkologie an der Universität Berlin. Wien und Leipzig: Urban & Schwarzenberg. 1885.

This book of 400 odd pages embodies the lectures delivered by Dr. Martin, of Berlin, in the vacation courses which are more especially intended for practitioners. It is, therefore, not adapted for students for two reasons. In the first place it omits much that is essen-

tial for the beginner, the A B C of gynæcology, and in the second place it largely treats of operative procedures which none but the specialist should undertake. It is condensed, except, perhaps, his descriptions of operations, which are given with all the fullness of detail which mark the enthusiastic surgeon. In fact, in this respect it is the best book we have seen since the Operative Gynæcology of Hegar and Kaltenbach appeared.

As the book practically consists of what Dr. Martin has given in lectures to physicians, and is not intended to be a manual for students, the author has wisely confined himself to his own views and methods. We have, therefore, a book marked by personality and originality, and hence a readable book.

His chapter on Anatomy is short but good. We are glad to see that the position of the ureters is spoken of. As the extirpation of the uterus becomes more common their anatomical relations should be well understood.

The bimanual examination he justly considers by far the most important method. He, however, very strangely falls into the error of supposing that in this country it is made in Sims's position.

He devotes only a short chapter to Menstruation and its Disorders. He inclines to the opinion that ovulation and menstruation are not entirely independent functions. Intermenstrual pain he considers physiological, but does not pretend to give any satisfactory explanation of its occurrence.

The chapter on Malpositions of the Uterus is in general very good. The caution which he displays everywhere through the book with regard to even the simplest treatment is especially marked here. He is inclined to limit the number of displacements which require treatment, first, by striking many cases of anteversion and flexion out as being merely physiological, and, second, by considering displacements with adhesions as peri- or parametritis, with dislocation of the ante- or retroflexed uterus. This may be pathologically correct in a certain proportion of cases, depending, of course, upon which was the first factor, the displacement or the inflammatory process; but therapeutically it is not, for the treatment which is of most avail in these cases is directed primarily to the displacement.

What is generally considered congenital anteflexion of the neck, with elongation, he says is not congenital, but the result of cervical catarrh. He lays great emphasis on the rôle that pregnancy and parturition play in producing displacements of the uterus, especially the backward forms, which he claims are rarely found in women who have not either borne children or suffered from a miscarriage. This is certainly contrary to our experience here.

For complete prolapse of the uterus he wisely recommends a plastic operation, and after describing several methods practiced by different German surgeons (he makes not the slightest reference to Americans), he describes his own operation, which, though thorough, and one that ought to secure the desired result, yet seems formidable if all the steps are to be taken at once, as he recommends. He begins by amputating the neck of the uterus, then narrows the anterior wall, then the posterior, and finally stitches up the perinæum. It is no wonder that he keeps his patients absolutely quiet for three weeks after such a series of operations, and only removes the uppermost stitches after two or three months.

The chapter on Diseases of the Mucous Membranes of the Uterus is especially good as regards the pathology, and his treatment of laceration of the cervix leaves nothing to be desired. So, too, his treatment of stubborn cervical and corporeal catarrhs. He is at his best when describing the operations of amputation or removal of the uterus for fibroids or malignant disease, both by the abdominal and vaginal methods. These operations have in his hands shown good results. His rule of operative procedure in cases of cancer of the cervix is, when the diagnosis has been made sure microscopically, to proceed at once to the extirpation of the uterus. We cannot but feel that if more care were bestowed on less radical measures the results would repay. Such, at least, has been the experience not only here but in Europe.

The section on Diseases of the Tubes is well up to the present state of our knowledge of them, and he even includes tubal pregnancy, though strangely enough he omits any mention of electricity as a means of cure.

Taken as a whole the book is an exceedingly good and valuable one, and one which we can recommend to all gynæcologists who are familiar with German. The wood-cuts, of which there are one hundred and sixty-four, are most admirably done, and many of them are especially prepared to illustrate the points discussed. We have yet a long stride to make before we can equal in execution or originality the work of the Germans in this respect. The text is clear and the paper good.

Diseases of the Heart and Thoracic Aorta. By BYROM BRAMWELL, M. D., F. R. C. P. E., etc. With 317 Illustrations. 783 pages. New York: D. Appleton & Co. 1884.

In a foot-note to the preface it is written, "the subject-matter of the work was delivered almost exactly as it stands in the form of lectures to the author's class in the beginning of the winter session 1883–1884," a statement which awakes reflection in the mind of any one with some experience in medical instruction. The obligatory course of study at the University of Edinburgh is a year longer than with us, but, making full allowance for the extra year, we find it difficult to understand how the teachers can administer and the students digest such large quantities of mental food in the time if all the more important branches and subjects of medicine are treated with the fullness which characterizes these lectures. In spite of the well-known remarkable vigor of the Scotch race we are fain to believe that the mere end of instruction of students would have been better served had the lectures been condensed. Twenty-eight consecutive pages are devoted to the sphygmograph. The cardiograph has an appendix of twenty pages. Forty-five pages are given to the anatomy and physiology of the heart. Twenty more pages are occupied by an elaborate discussion of the theories advanced to explain the mechanism of functional murmurs. The author agrees with Balfour in thinking that in many cases of advanced chlorosis the systolic apex murmur is due to mitral regurgitation, but, contrary to Balfour, believes that this murmur is distinct from that heard at the base. The latter authority maintains that both alike indicate imperfect closure of the mitral orifice, though in varying degree. Russell's theory that the basic murmur is due to constriction of the pulmonary artery by pressure of the

dilated left auricle is also rejected, the author thinking that the weight of evidence favors the view according to which the murmur is produced by "the *sudden* propulsion of a *large* blood wave of *abnormal* composition[1] into the vessel, which is, probably, in some cases at least, dilated."

This very completeness, which is carried out in almost all parts of the book, and which if it be an error as regards the relation of a teacher to his pupils is, at all events, an error in the right direction, becomes an unqualified merit as regards the relation of an able and competent physician of large experience toward his professional brothers. Looking at Dr. Bramwell's book from this latter point of view we can scarcely use a word that is not of praise. The only fault we have to find is that the work is, we fear, too expensive to secure the large sale which it deserves. The beautiful plates in which it abounds do not add to the value in the same proportion that they add to the cost. At page 300 are four full-page, natural-size lithographs illustrating pericarditis and our criticism alike. There are few who would be likely to buy the book or profit from it when bought who have not seen inflamed pericardia, still fewer who have not seen inflamed pleuræ, and it is a pity that the many should pay — or lose more by not paying — for the neglect or want of educational advantages on the part of this fraction of the profession. This criticism, which sounds rather ungrateful from a reviewer, springs really from appreciation of Dr. Bramwell's labors.

One passage we cannot refrain from quoting *in extenso:* "The advisability of communicating to or withholding from the patient the knowledge that the heart is diseased is a question which always requires careful consideration. In most cases it is, in my opinion, highly desirable to deal frankly, though, of course, the very reverse of abruptly, with the patient; for unless he realizes the fact that his heart is organically diseased he cannot intelligently carry out our instructions as to treatment, and he does not guard himself so carefully as he otherwise would do against many things, such as over-exertion, exposure to cold, etc., which aggravate the disease or induce complication. In some cases the communication should be made in a very guarded manner, and in the case of very nervous and easily depressed people it is occasionally, though rarely, desirable to withhold the information altogether. In cases of this description the physician should take care to protect himself against accidents by communicating the exact condition of the patient to some judicious relative, for should this communication not be made, and the fact that the heart is affected be subsequently discovered (by some other physician, for example, or by the death of the patient) it may be supposed that the cardiac lesion was not recognized. In all cases of mitral regurgitation in which the patient is informed of his condition he should be impressed with the fact that the lesion has little or no tendency to result in sudden death."

This is a practical point which is too often neglected by authors, and Dr. Bramwell's statement accords so thoroughly with our own preaching and practice, and is at the same time so clear that we cordially indorse it to the full. Let the physician only be careful to be sure of his diagnosis, remembering that time may be an important factor in distinguishing between organic murmurs and those which are merely functional.

[1] The italics are Dr. Bramwell's.

In conclusion we can heartily recommend the book, especially to those who do not cease to be students though they have taken their degrees. F. C. S.

On Sclerosis of the Spinal Cord: including Locomotor Ataxy, Spastic Spinal Paralysis, and other System-Diseases of the Spinal Cord: their Pathology, Symptoms, Diagnosis, and Treatment. By JULIUS ALTHAUS, M. D., M. R. C. P. New York: G. P. Putnam's Sons. 1885. Pages xii., 394.

A very simple yet true remark begins the book: "There is no pathological term which is nowadays so freely and somewhat loosely used in speaking and writing about the diseases of the nervous system as the word sclerosis. . . . In practice any obscure and chronic case of nervous disease is now often spoken of as 'a case of sclerosis,' which is supposed to explain everything, and it cannot be denied that there is a good deal of confusion in the professional mind about what sclerosis really means and comprehends."

This book clearly describes the morbid anatomy and symptoms of the diseases of which it treats. The arrangement is a little different from most works on these diseases. After a brief anatomical introduction, the pathological anatomy of the different forms of sclerosis, — tabes spinalis, lateral sclerosis, secondary sclerosis of the pyramidal strands, of the cerebellar strands, of Goll's columns, amyotrophic lateral sclerosis, disseminated sclerosis in patches — are minutely described. A chapter is then devoted to the ætiology of all these, and finally their symptoms are given, and the treatment of each.

About a third of the book is given to locomotor ataxia, or, as Althaus prefers to name it, tabes spinalis, and this is much the more important of the diseases considered. The account of its symptoms is full, satisfactory.

In the chapter on Diagnosis the author refers to the value of absence of tendon reflex as a pathognomonic symptom, and an important aid in distinguishing tabes from other affections. He gives this symptom its proper place, and justly emphasizes its importance. By the way, he expresses the opinion that the knee phenomenon is a true reflex. The importance of Argyll-Robertson's symptom, when present, is also mentioned.

No mention is made of Déjérine's observation, in which multiple neuritis so closely simulated tabes that the diagnosis was not made until after death the microscope showed that the disease was confined to the nerves.

In speaking of the morbid anatomy and nature of tabes the author says that the first change "affects the axis cylinder of the central nerve fibre." While this probably does not express exactly what he means the idea one would gain is true. A review of all that has been written on this subject seems to have left an uncertainty and unsatisfaction in his mind, as he says, as if in despair of bringing order out of the chaos of opinions, "On reviewing the whole of the morbid changes which are found to take place in tabes they appear to us of an extremely complex character."

On page 4 he says: "All forms of primary sclerosis are symmetrical, and only exceptionally confined to one half of the organ." The patches of insular or disseminated sclerosis are not symmetrical.

Such expressions as "higher up," "later on," "lower down" are not uncommon.

We commend the book to any one who desires a not too long description of sclerosis of the spinal cord.

Medical and Surgical Journal.

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AN AMERICAN SOCIETY OF PUBLIC ANALYSTS.

A CALL was issued in November last to all those holding official appointments under Boards of Health as analysts, inspectors, and health officers to attend a conference to be held upon the 24th of that month at the office of the Brooklyn Health Department. This meeting was well attended by representatives from the Middle and adjoining States. A constitution and by-laws were adopted, and the meeting adjourned to the regular day of meeting agreed upon, the second Monday of the next month, that is, to December 8th, when the officers for the next year were to be elected.

The name of the Society is to be "The American Society of Public Analysts." Its object is, by the holding of frequent meetings for the reading and personal discussion of original papers upon these subjects, to improve the processes of inspection and of the microscopic and chemical detection and estimation of adulterations in food or drugs, to secure uniformity in the statement of the results, and also to provide for a sanitary control of the food supply.

The proceedings and papers read will, probably, be published in *The Analyst*, the organ of the British society of the same name. The place of meeting may be at any of the different cities in which any of the members reside, although it is likely to be most frequently in New York. Membership is divided into active and honorary; active members to be only those holding official appointments as analysts and inspectors; any person interested in the objects of the Society may become an honorary member.

By the frequent meetings it is proposed to hold each member will be kept well informed as to what has been learned by all the others in the way of new adulterations, and the readiest means for their detection, as well as to the newest and most reliable means of defense in cases of legal prosecution. They will thus work together to expose all crookedness in regard to food or drugs, and follow up offenders as they move on from place to place.

By this concerted action it is expected that very much more can be accomplished than could possibly be brought about in any other way. It was for this that the similar British society was formed in 1874, and there the results have justified these expectations.

The British Society holds monthly meetings, and its proceedings are published in the *Analyst*, a semi-official monthly organ of the Society, though having a distinct editorial management.

Legislatures can be roused to spasmodic action by eager individuals, but they can only be held to sustain laws opposed to the selfish interests of trade by such collective presentation of technical knowledge and indisputable facts as the association together of men with a special training can furnish.

Men engaged in practical medicine find much personal benefit from conference and association, and those engaged in State medicine will find no less profit in them. What a Medico-Legal Society is to medical examiners, that a Society of Public Analysts will be to the analysts and inspectors attached to Boards of Health.

Much has still to be learned and taught as to the best methods of preventing adulterations of food and drugs, as to the best ways of detecting, prosecuting, and punishing offenders. Some of our States already have good laws and are making honest and vigorous efforts to enforce them, but even there mistakes arise, and in many States there are either no systematic laws or else they have been allowed to become a dead letter.

The preservation of the purity and quality of the one item of milk has proved almost as difficult a problem to many wise heads as that of perpetual motion or squaring the circle.

ORGANIZATION OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

THE Committee on Organization of the Ninth International Medical Congress, to be held in Washington in 1887, have issued a preliminary notice, received too late for insertion last week, which will be found in another column. We abstain from giving publicity to any other particulars which may have reached us until they are officially announced. The arrangements and appointment of officers thus far made public seem very judicious.

It seems to be positively decided that the Congress is to meet in Washington, and, as we understand it, in the month of September. There are, no doubt, many weighty reasons why the Meeting should be held in Washington, and, perhaps, every reason why no better month than September can be selected. We fear, however, that the choice of time and place will seriously interfere with the success and enjoyment of the occasion. The experience of the British Association for the Advancement of Science this past summer, when transferring itself from Montreal to Philadelphia, is a warning of what is quite likely to happen again. Even abstract science grows limp with the Fahrenheit thermometer in the eighties or nineties and removed

from even the temporary refreshment of sea or mountain air.

If sure of escaping malaria one might seek relief upon the Potomac of an evening, but there is too much danger of an unwelcome intermittent chill; and sufficient hotel accommodations, interesting national museums, a really beautiful city — not at its best in September, — and an arrangement with the Signal Service Bureau must be the alternatives under the apparently unavoidable conditions.

PLEURO-PNEUMONIA AND HOG CHOLERA AT NEW YORK AND LONG ISLAND.

AT a recent conference at New York at which Prof. C. F. Chandler, late President of the Board of Health, Health Commissioner Raymond, of Brooklyn, and other authorities in sanitary matters were present, the inspectors appointed last spring as agents of the new Bureau of Animal Industry of the Department of Agriculture, made their first report to Dr. Loring, the Commissioner of Agriculture.

The inspections made by them were for the purpose of learning the condition of cattle brought to the vicinity for slaughter, or to be kept for dairy uses, with special reference to the amount of contagious pleuro-pneumonia that was being harbored there. In 758 stables in New York City, containing 3318 cows, there were found twenty-six infected with the disease. On Long Island, 1416 stables were inspected, and among the 10,072 cows contained in them there were 325 cases. In the Staten Island stables there were found twelve cases, and in thirteen stables inspected in New Jersey eight cases. In the Jersey City Abattoir thirty-nine visits discovered thirteen affected animals, and at the New York offal dock out of sixty-three post-mortem examinations twenty of the cases were found to be pleuro-pneumonia. The report states that the result of the investigation has been to give a definite idea of the extent of the disease, and to secure great improvement in the condition of the stables.

The contagiousness of the disease has been proved by experiments made on Barren Island, in which healthy cattle, imported expressly for the purpose from Canada, were placed in company with diseased animals, and the report goes on to say: "We are confident that further investigation in this direction will enable us to decide upon the virulence of the disease as found in America, the time of incubation here, and the possibility of controlling it in those sections in which it may unexpectedly appear." Commissioner Loring expressed himself gratified with what had been accomplished, and Professor Chandler said that this was the first bold move in the right direction.

Dr. Raymond, of the Brooklyn Board of Health, and Dr. J. Blake White, of the New York Board, now propose, with the help of the inspectors, to investigate in what manner pleuro-pneumonia affects the milk of cows suffering from the disease.

Within the past week or two hog cholera has broken out in a very virulent form among the extensive piggeries at Flatbush, Long Island, and the animals are said to have been dying at the rate of fifty or sixty a day. The Brooklyn Health Department has been given notice that certain New York and Brooklyn butchers have bought a number of the dead hogs from the poorer owners, and carted them away at night. There are also reports of isolated cases of hog cholera on farms in the vicinity, and there is great fear among the farmers of the county that the disease will spread among pigs generally in that region. The disease is so infectious, contagious, and rebellious to treatment, that it is considered necessary by the best authorities to kill the animals at once and burn them and their sties, with the troughs, pails, litter, and all utensils used by them.

THE DISPENSARY DOCTOR AS SAINT STEPHEN.

ONE of the district physicians of the Boston Dispensary was stoned last week by a set of young hoodlums whilst discharging his beneficent duties in the relief of suffering. The part of the city where this occurred, Silver Street, South Boston, has gained an unenviable and increasing reputation for lawlessness of late years. This is thought to be due, not to the inefficiency of the police, who are said to be willing and able to discharge their duties, but to the apparent unwillingness of the local police court to pass sentence on offenders when brought before it. The court's usual practice of putting disturbers of the peace on probation seems to foment rather than to check disorder.

In the present instance the court gave an exhibition of vigor towards the visiting doctor which would be well bestowed at times upon the resident hoodlums. The doctor, in defending himself against the fate of St. Stephen, was unlucky enough to hit one of the smaller of the gang in the street over the head with his umbrella. Although in such bad company this lad immediately became an innocent victim besides being the son of a local politician. As the outcome of the matter criminal and civil suits against the medical agent of the Dispensary, which were not likely to thrive in the local legal atmosphere, have been settled for $125, and this seems now to be the established price in Boston for assaulting a tailor or for being stoned as a doctor.

The Dispensary has promptly abolished this South Boston District, and the physician will no longer be sent to exchange diet orders and medical advice for stones. The inhabitants of Gold and Silver Streets will have an opportunity to find out that the patient, sympathetic care and attention freely given them all these years is the result of individual private charity, and not their part of the spoils from a tax-rate of $17 on a thousand.

No charitable institution in Boston or in any other large city does a more gracious or much blessed work among the poor and suffering, or does it more unostentatiously and skillfully, than does the Boston Dispensary. Its ministrations have been continued so

many years that the classes of the community for whom they are designed regard their continuance with the same assured confidence as that they can have air to breathe and water to drink — should they desire such. On the other hand it is only fair to say that, hitherto, the Dispensary doctor — and most of us have borne the title — has been a privileged character. He has been able to go into the worst slums and most dangerous haunts at all hours of the day or night, and it has been the rarest thing where anything except courtesy and respect has been shown him. It seems to be reserved for South Boston to manifest a spirit which the North End or the South Cove would be ashamed of.

MEDICAL NOTES.

— The *Medical Record* tells the following story of the celebrated Oppolzer. Shortly after his arrival in Vienna he was consulted by an invalid, whom he advised, after a somewhat hasty examination, to go to Pistyan, in Hungary, and take the waters. After several months the man, whom the professor had forgotten, again presented himself with an aggravation of all his symptoms, and said he had just returned from a course of the Pistyan waters. The professor examined him, this time rather more carefully, and then, with some wrath, asked him what confounded ass had advised him to go there, as it was the worst thing he could possibly have done. Moral: Always speak well of your neighbor.

— On the 1st instant a law went into effect in Germany amounting to compulsory insurance. A certain premium is collected by law, as we understand it, from all persons. The benefits to be derived by the sick or disabled workman are gratuitous medical attendances, medicines, and appliances, and, after the third day, a money-allowance equal to half the daily wages, so long as it does not exceed seventy-five cents a day, for thirteen weeks. In case of death, a burial allowance will be made, amounting to twenty times the daily average wage of the locality. The details of the system have not as yet come to hand, but the principle, that of compulsory insurance, is settled, and its results will be looked for with interest.

PORTLAND, MAINE.

— The Cumberland County Medical Society held its annual meeting on the 26th of November. Dr. Stephen H. Weeks delivered the address, taking for his subject The Tendencies of Modern Surgery. After recounting some of the principal triumphs of surgery of late years, and instituting a comparison between the resources of the surgeon formerly and now, he proceeded to draw the inferences that the surgery of the present day tends, first, towards conservatism; second, to specialization; third, to the demand for a higher education; and fourth, to a better social position. Each of these points was carefully elaborated, and supported by argument and illustration; and the address gave great satisfaction to the audience.

For the first thirteen years of the Society's existence the meetings were held in the day-time, but in 1880 a change was made to the evening. One result of this alteration has been a great decrease in the attendance of the members residing in the country towns, as they find it inconvenient and difficult to get to their homes after ten o'clock at night. At this meeting the city men, desirous of having the out-of-town members enjoy the privileges of the Society, proposed and unanimously agreed to have the sessions in the future in the forenoon. The day of meeting, also, was changed to the last Thursday of each month. It is hoped that the new plan will secure a very large attendance.

The following officers were chosen for the coming year: President, A. K. P. Meserve, of Portland; Vice-President, J. L. Horr, of Saccarappa; Secretary, S. P. Warren, of Portland; Treasurer, J. A. Spalding, of Portland; Orator, A. H. Burbank, of Yarmouth.

— There are three private medical associations in this city: the Portland Medical Club, the Clinical Society, and the Practitioners' Club, named in the order of their establishment. The first has more than twenty members, and meets fortnightly; the others have a smaller membership, and hold monthly meetings, in which the social element is prominent. All three are in a very prosperous condition.

— The capacity of the Maine General Hospital has been greatly taxed of late, applications for beds being much in excess of the accommodations. The pressure will be removed, however, as soon as the new addition and amphitheatre are completed; for then apartments which it has been necessary to use for operations, students' waiting rooms, and servants' quarters will be vacated, and can be devoted to the immediate service of patients. The operating amphitheatre is nearly finished, and will probably be dedicated in a few weeks. A full description of the building will be given at that time.

— On the first of January next a training school for nurses will be established at the hospital. The need of such an institution has long been felt, but it has not been practicable to utilize the hospital for this purpose hitherto. The value of this service to the community can hardly be overestimated, and will doubtless be highly appreciated.

— The Portland School for Medical Instruction is especially prosperous this year. More than fifty per cent. of the students are college graduates — a fact largely attributable to the strictness of the entrance examinations.

— Another effort is to be made this winter to obtain a State Board of Health in Maine. The result is, of course, extremely doubtful, as the sentiment of the people is not well educated in sanitary matters. Under the stress of fear, occasional spasmodic displays of interest in public hygiene are made, but, as soon as the threatened danger seems to be past or the epidemic has committed its ravages, the former apathy settles down on the people, and they are deaf to the warnings of intelligent sanitarians. For instance, five years ago the citizens of Portland were vastly agitated by reason of certain bad odors, which were thought to

be due to the foul condition of our Back Cove. The newspapers were inundated with communications from alarmed and exasperated tax-payers, and the municipal authorities were sufficiently aroused to appoint a commission of physicians to investigate the causes of the difficulty. After a prolonged and careful study of the problem the commissioners reported, pointing out numerous sources of the nuisance, and advising certain procedures which would put the city in a safe and comfortable condition. But of all the recommendations only one was practically adopted, and that was of far less importance than a number of others. Very little further was said about the general causes of disease in the city until this summer, when, complaints becoming loud again, the City Council thought it well to bestir itself anew. Ignoring the fact that it already had a report on the subject from some medical men of its own choice, who were presumably competent to advise in the premises, it advertised a public hearing, at which all citizens who wished to attend were invited to give their opinions of the origin of the trouble and the best methods for its abatement. Thomas, Richard, and Henry were there, each with an explanation and a remedy different from all the others. Fortunately, as it then appeared, the Council adopted the suggestion of a wise man who had paid a great deal of attention to such matters, and employed an expert engineer to make a plan for an intercepting sewer which should receive the sewage from the northern slope of the city, and thus prevent its discharge into the Cove. The engineer came, made his survey, and reported; but, with a short-sightedness which has become characteristic, the admirable plan proposed was utterly rejected, and a make-shift sewer was ordered which will never do the needed work, and will probably tend to aggravate the present difficulty. Some years hence the work will have to be undone, and the city will be put to the expense of a new sewer, constructed on a scientific method. This bit of history is given merely as an illustration of the lack of intelligence in sanitary matters which prevails throughout the State. If a State Board of Health is established, its chief function for a long time must be the creation of an enlightened public sentiment on the subject of the preservation of health.

NEW YORK.

— At the last meeting of the State Board of Health Mr. James T. Gardner, Director of State Survey, called attention to the unsanitary condition of the flats at Albany, particularly the basin owned by the State, which is skirted by all the principal hotels and business houses, and into which the principal sewers of the city empty. The State is compelled by law to maintain a depth of seven feet at low tide, but long-continued deposits of sewage have filled up the basin. In addition the water used in Albany is pumped from the Hudson River, at a point near the channel where the water from this polluted basin flows into it, and thus the health and lives of many people are endangered. Mr. Gardner recommended that the city of Albany should be restrained from emptying its sewage into this basin, and that an appropriation be made to dredge it to the required depth.

— During the latter part of last month Mayor Edson, in company with General Shaler and a number of other officials of the Health Department, and Engineer Church, of the Aqueduct Commission, made an excursion for the purpose of examining the condition of the Croton water-shed. On their return it was stated that no fault could be found with the reservoirs or the bed of the streams from which the water comes, but at the villages along the course of the Croton and its tributaries they found evidence that sewage found its way into the water so as to slightly contaminate it. The distance from the points of the contamination to New York is so great, however, that the water is purified before it enters the city mains, though as the villages increase in size trouble may arise from this source.

Correspondence.

THE ASPIRATOR IN PLEURAL EFFUSION.

BOSTON, *November* 29, 1884.

MR. EDITOR, — In the record of the First Annual Meeting of the New York State Medical Association (*Boston Medical and Surgical Journal*, November 27, 1884) I find that Dr. E. D. Ferguson, of Rensselaer County, presented a paper on the Use of the Aspirator in Hydrothorax. He laid down the following propositions: —

"First. Owing to the dangerous and often fatal results which he had seen produced by the aspirator by causing pyothorax, he now never resorted to it except when dyspnœa or other serious symptoms supervened."

"Second. Dr. Bowditch had maintained that the aspiration should be continued until the patient complained of pain in the epigastrium or dyspnœa, but he (Dr. Ferguson) thought that it was much better that it should be stopped before this point was reached, as the occurrence of these signs indicated a more or less grave condition already.

"Third. He would advise that more than a pint of fluid, at the outside, should never be withdrawn at one time.

"Fourth. In the pelvic cavity much evil had resulted also from the too free use of the aspirator, and, on the whole, he thought the instrument had, perhaps, been productive of more harm than good."

Permit me to take issue upon these points, which, from the report in the JOURNAL, were all that Dr. Ferguson presented in his paper.

First. Since 1850, when I first began to operate with Dr. Wyman's fine trocar and suction pump, I have had under my care two hundred and fifty-three patients with pleuritic effusions which required operations to remove the fluid. Three hundred and ninety-five operations were done. The vast majority of these operations have been that of suction, as above named. In a certain number a permanent opening became necessary. In one, Estlander's operation of removal of portions of two ribs was performed with perfect success and complete restoration to health after four years of suffering from a fistulous opening into the chest

During this period of thirty-four years I have never met with "dangerous or fatal results consequent on the operation of suction." I have seen a case under the care of another in which a permanent opening was made *under etherization*. In this case the pulse failed twice during the operation; but full recovery to health was the final result. I believe the patient would have died if the opening had not been made.

Second. Doubtless I should have met often "with dangerous and fatal results" if I had pursued the course which Dr. Ferguson says that I recommend. Unfortunately Dr. F.'s assertion is incorrect. I do not maintain that we must draw until pain or dyspnœa occur but precisely the reverse, as my patients and students would admit. My method is as follows: I use, as at first, the finest trocar to which I have applied a suction pump. I prefer this apparatus to any "aspirator" with vacuum previously arranged, as in Dieulafoy's or any other method. I think I can by the pump, which I hold in my hand, more easily judge of the amount of force needed to extract the fluid, and can if I wish *instantly* stop all traction, whereas that knowledge is not given by the "vacuum" instruments.

Having pierced the thorax and arranged the suction, I say to the patient, "Tell me if you feel the *least* discomfort in any way, either pain or stricture or desire to cough. Tell me instantly;" and then I either wait a few moments and perhaps cautiously draw anew or I remove the trocar from the chest. I impress strongly upon the patient's mind that it is for his good to let me know the first moment of the *least discomfort*. During the operation I frequently repeat the question. By proceeding thus prudently and slowly I *never allow severe pain or dyspnœa to ensue*, and I do not recollect to have ever had "dangerous symptoms" occur.

Third. Dr. Ferguson would never take more than a pint of fluid at an operation. He would also wait before tapping "until dyspnœa or other serious symptoms" occur. Pray what would he advise in cases of *latent* effusions, when one side of the chest may be full of fluid, and the physical signs alone indicate the condition of things? His rule of delay till dangerous symptoms set in might lead either to sudden death from obstruction of the heart or to long disease, terminating fatally. Such cases I saw repeatedly before 1850. I begged medical men to operate in the cases under their charge, and they would not, leaving death as the result.

In case I find now a chest full or nearly full of fluid, even if there be no severe dyspnœa, if the patient has been ill a month or six weeks I advise tapping as the *first* remedy. I afterwards use the common remedies, internal and external, for pleurisy. Having commenced the operation I draw from one to four, or once even five, pints, always watching, especially after two pints have been drawn, the condition of the patient, as above named. It would seem to me wrong to limit myself to one pint when I could by care draw more, and thus save a second operation.

Fourth. Dr. Ferguson said also that the instrument had been used much too freely in the pelvic cavity, and has done much evil there. I am not sure that I understand aright when I say that his words seem to intimate that "on the whole" the aspirator as generally used has done "more harm than good" wherever used. If he means that assertion as applicable to the thorax, I deny it wholly. It has been of infinite service to mankind, and will ever continue to be such. It will eventually save lives which, without it, will be lost. All that is required is that due care govern the use of it.

Respectfully yours,

HENRY I. BOWDITCH, M. D.

HYDROCHLORATE OF COCAINE SUBCUTANEOUSLY.

MR. EDITOR, — As the medical journals of the country are now filled with reports of the use of the new anæsthetic, hydrochlorate of cocaine, and as the use has been more generally restricted to its application to mucous surfaces, I have thought it might be interesting to record its trial in the following case: —

Thomas H., aged fifty-five, farmer, came under observation two weeks ago. He had a peculiar ragged, ulcerated-looking patch on right cheek just below the malar bone, which was diagnosticated an epithelioma, and an immediate operation advised. As he was strongly opposed to the use of either chloroform or ether, the new anæsthetic was employed, and the operation was performed December 2d.

A four per cent. solution of the drug, a foreign preparation, obtained through the kindness of Carter, Harris, & Hawley, of Boston, was used, and the solution injected hypodermically.

The injections were conducted by Dr. J. C. How, of this city. The needle of an ordinary hypodermic syringe was passed through the skin on either side and above the growth. Four minims were employed at each injection, with an interval of from three to five minutes between each. A few minims were also rubbed over the growth with the finger. The pulse at the first injection was 88 per minute, but in five minutes after went up to 98. No change in the respiration was observed. The first injection was noticed to be quite painful, but after the second the patient remarked that the parts began to feel "numb" and "*tingled slightly*." Immediately after the third injection the cutting began. Two incisions, two inches long, were made on either side of the growth. Mr. H. remarked that the first incision hurt him no more than the ordinary scratch of a pin. The second incision was made without the slightest feeling of pain being manifested, nor was there any complaint of pain during the dissection of the growth from the muscles, which occupied from five to ten minutes, owing to delay in twisting some superficial blood-vessels. The wound was closed with hare-lip pins and the twisted and figure-of-eight sutures. Repeated questionings during this part of the operation elicited the response that he "suffered no pain." After the operation the pulse indicated 110. No headache followed, nor was there any feeling of drowsiness. An hour after the operation he complained of very severe pain about the wound, probably due to the tension of the sutures. There was no doubt in the minds of both Dr. How and myself that the injection of the cocaine rendered the operation a comparatively painless one, and was deserving of further trial and investigation.

J. F. CROSTON, M. D.

58 EMERSON ST., HAVERHILL, MASS.

— A child is reported as having recently died at Rye, England, from shock to the nervous system, caused by fright at seeing a boy wearing a mask. She lost her reason the first day after the occurrence.

Miscellany.

COMMITTEE ON ORGANIZATION OF THE NINTH INTERNATIONAL MEDICAL CONGRESS TO BE HELD IN WASHINGTON, D. C., IN 1887.

PRELIMINARY NOTICE.

THE Committee on Organization of the Ninth International Medical Congress, to be held in the United States in 1887, met in Washington, D. C., on November 29, 1884, for the determination of the general plan of the Congress, the election of officers of the committee, who will be nominated to fill the same offices in the Congress, and the consideration of questions of finance.

The following rules were adopted: —

(1.) The Congress will be composed of members of the regular medical profession who shall have inscribed their names on the register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems at present expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynecological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association, each of the foregoing Societies being entitled to appoint one delegate for every ten of their membership.

The members of all special and subordinate committees appointed by the General Committee shall also be entitled to membership in the Congress, together with such other persons as may be specially designated by the Executive Committee.

All Societies entitled to representation are requested to elect their delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

(2.) The work of the Congress is divided into eighteen Sections, as follows, namely: —

(1.) Medical Education, Legislation, and Registration, including methods of teaching; and buildings, apparatus, etc., connected therewith. (2.) Anatomy. (3.) Physiology. (4.) Pathology. (5.) Medicine. (6.) Surgery. (7.) Obstetrics. (8.) Gynæcology. (9.) Ophthalmology. (10.) Otology. (11.) Dermatology and Syphilis. (12.) Nervous Diseases and Psychiatry. (13.) Laryngology. (14.) Public and International Hygiene. (15.) Collective Investigation, Nomenclature, and Vital Statistics. (16.) Military and Naval Surgery and Medicine. (17.) E perimental Therapeutics and Pharmacology. (18.) Diseases of Children.

(3.) The General Meetings will be reserved for the transaction of the general business of the Congress and for addresses or communications of scientific interest more general than those given in the Sections.

(4.) Questions which have been agreed upon for discussion in the Sections shall be introduced by members previously nominated by the officers of the Section. The members who open discussions shall present a statement of the conclusions which they have formed as a basis for debate.

(5.) Notices of papers to be read in any one of the Sections, together with abstracts of the same, must be sent to the Secretary of that Section before April 30, 1887. These abstracts will be regarded as strictly confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various Sections will be received. Any member, after April 30th, wishing to bring forward a subject not upon the programme must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each Section shall decide as to the acceptance of any communication offered to their Section, and shall fix the time of its presentation. No communication will be received which has been already published or read before a society.

(6.) All addresses and papers, read either at General Meetings or in the Sections, are to be immediately handed to the Secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

(7.) The official languages are English, French, and German.

No speaker shall be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

(8.) The rules, programmes, and abstracts of papers will be published in English, French, and German.

Each paper or address will appear in the Transactions in the language in which it was delivered by the author. The debates will be printed in English.

(9.) The officers of the General Committee on Organization are a president, three (3) vice-presidents, a secretary-general, and a treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election.

(10.) There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, and of four other members, to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee; to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

(11.) There shall be a Standing Committee on Finance, composed of five members, to be appointed by the President, subject to the approval of the Executive Committee.

(12.) Those who are elected as chairmen of the several Sections shall be thereby constituted members of the General Committee.

The officers elected are as follows: —

President, Dr. Austin Flint, Sr., of New York.

Vice-Presidents, Dr. Alfred Stillé, of Philadelphia; Dr. Henry I. Bowditch, of Boston; Dr. R. P. Howard, of Montreal, Canada.

Secretary-General, Dr. J. S. Billings, U. S. Army.

Treasurer, Dr. J. M. Browne, U. S. Navy.

Members of the Executive Committee (in addition to

the President, Secretary-General, and Treasurer), Dr. I. Minis Hays, of Philadelphia; Dr. A. Jacobi, of New York; Dr. Christopher Johnston, of Baltimore; Dr. S. C. Busey, of Washington.

The Executive Committee will proceed at once to complete the work of organization.

J. S. BILLINGS, *Secretary-General.*

WASHINGTON, D. C., *December* 1, 1884.

SUBNORMAL TEMPERATURES IN PARALYTICS.

IN an article on this subject by Professor Hitzig (*Berlin klin. Wochenschr.*, 34, 1884), the writer says that excessive drops in temperature take place most frequently in paralysis and the various forms of disease allied to it, especially senile psychoses. An increased giving off of heat is not necessarily present in such cases, but is always indicated if the subnormal temperature is found in other forms of mental disturbance. Not seldom there is a peculiar relation of this symptom to the paralytic affections. The lowering of temperature may precede them by hours or days, and in such cases may be considered as in a certain degree a precursor of them. In one series of cases the temperature does not come up again during the attack to the normal point; in another series it rises with greater or less oscillations to a higher or lower point, then either to return to the normal, or to remain high till death, or to sink anew. But great oscillations in temperature may come without convulsions or paralytic attacks. Such a variation occurred in the last weeks of a decrepit paralytic, between 31.6° and 37.2° C. A satisfactory explanation of these phenomena cannot as yet be given from the material at hand. In one class of cases cardiac weakness plays a leading part, but proof is yet wanting that that condition is not oftener the result of the refrigeration. The assumption of a primary excessive elimination of heat is inadequate because in two of the observations recorded and illustrated with temperature curves, intercurrent elevations of temperature took place. Under these circumstances we cannot lose sight of the possibility of a causal affection of the heat regulating centre, even if we must also admit that palpable anatomical alterations of the central nervous system, which might be reasonably advanced in explanation, have not as yet been established by any one. The experimental studies on the influence of the cerebrum upon heat production are as yet insufficient to throw light upon these questions.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 29, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	701	253	20.44	18.34	2.94	2.10	3.02
Philadelphia	927,995	372	120	25.11	6.21	.81	5.40	15.12
Brooklyn	644,526	246	94	17.10	12.15	2.25	1.35	8.55
Chicago	632,100	231	110	29.42	11.61	1.72	1.72	15 05
Boston	423,800	197	73	9.18	15.98	1.36	2.04	4.08
Baltimore	408,520	130	44	16.17	8.47	1.54	2.31	9.24
St. Louis	400,000	453	64	22.75	18.20	1.95	3.90	9.10
Cincinnati	272,400	124	54	15.39	11.34	6.48	3.24	3.24
New Orleans	234,000	128	39	21.84	5.46	4.68	—	5 46
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	52	16	15.26	15.26	—	—	1.92
New Haven	62,882	23	7	17.40	8.70	—	8.70	8.70
Nashville	54,400	16	6	25.00	—	—	6.25	12.50
Charleston	52,286	34	9	8.82	8.82	—	—	5.88
Lowell	71,447	23	3	4.35	8.70	—	—	—
Worcester	69,442	35	11	40.00	28 57	2.86	2.86	28.57
Fall River	62,674	—	—	—	—	—	—	—
Cambridge	60,995	21	3	14.28	28.57	—	4.76	4.76
Lawrence	45,516	16	6	6.25	6.25	—	—	—
Lynn	44,895	13	1	7.69	15.38	7.69	—	—
Springfield	38,090	16	6	25.00	31.25	6 25	—	6.25
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	15	8	20.00	13.33	—	—	6.66
New Bedford	30,144	8	2	25.00	—	—	12.50	12.50
Salem	29,503	13	0	7.69	—	—	7.69	—
Chelsea	24,347	—	—	—	—	—	—	—
Taunton	22,693	8	2	25.00	—	—	12.50	12.50
Gloucester	21,400	16	7	12.50	12.50	—	—	—
Haverhill	20,905	9	1	—	11.11	—	—	—
Newton	19,421	5	1	—	20.00	—	—	—
Brockton	18,323	5	1	—	20.00	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	3	0	—	66.66	—	—	—
Fitchburg	13,433	5	1	—	—	—	—	—
Eighty-eight Massachusetts towns	314,875	49	13	6.12	30.60	—	4.08	2.04

Deaths reported 2667: under five years of age, 945; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 515, lung diseases 407, consumption 381, diphtheria and croup 214, typhoid fever 70, diarrhœal diseases 59, scarlet fever 44, malarial fevers 39, measles 35, whooping-cough 27, cerebro-spinal meningitis 14, erysipelas 10, puerperal fever seven, typhoid fever three. From *malarial fevers*, New York 16, New Orleans seven, Chicago six, St. Louis five, Brooklyn and Baltimore two each, Philadelphia one. From *measles*, New York 24, Chicago four, Philadelphia and Cincinnati two each, Brooklyn, New Bedford, and Gloucester one each. From *scarlet fever*, New York 15, Chicago seven, St. Louis six, Philadelphia four, Providence three, Brooklyn, Boston, and Baltimore two each, Cambridge, Lawrence, and Holyoke one each. From *whooping-cough*, New York seven, Philadelphia, Chicago, and New Orleans four each, Providence three, Brooklyn and Boston two each, Gloucester one. From *erysipelas*, Brooklyn three, New Orleans two, New York, Philadelphia, Chicago, Boston, and Providence one each. From *puerperal fever*, New York and Brooklyn two each, Cincinnati, Worcester, and Holyoke one each. From *typhus fever*, New Orleans two, Charleston one.

Cases reported in Boston: scarlet fever 57, diphtheria 36, typhoid fever 24, and measles 22.

In 104 cities and towns of Massachusetts, with an estimated population of 1,274,963 (estimated population of the State 1,955,104), the total death-rate for the week was 18.92 against 15.60 and 18.08 for the previous two weeks.

For the week ending November 15th, in the Swiss cities, there were 21 deaths from lung diseases, consumption, 19, diarrhœal diseases 13, diphtheria and croup four, scarlet fever two, whooping-cough two, typhoid fever two, erysipelas one. The death-rates were, at Geneva 16.3; Zurich 19.7; Basle 6.2; Berne 18.9.

The meteorological record for the week ending November 29th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the U. S. Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Nov., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 23	29.932	57	65.1	41	93	71	100	88	S	S	S	8	32	37	F	O	R	—	—
Mon., 24	29.708	37	64	26	60	37	82	60	W	W	W	17	21	18	F	C	C	—	—
Tues., 25	29.977	32	40	21.5	66	71	77	71	SW	SW	SW	15	12	12	C	O	O	—	—
Wed., 26	29.666	38	46	30	83	68	82	78	SW	NW	W	5	10	13	O	O	C	—	—
Thurs., 27	29.954	33	36	26	77	50	73	67	W	W	S	8	16	6	C	F	O	—	—
Fri., 28	29.746	47	54	35	53	74	66	89	S	S	NE	8	5	4	O	R	R	—	—
Sat., 29	29.710	39	47	34	94	48	70	71	N	NW	W	8	20	14	R	C	C	—	—
Mean, the Week.	29.813	40.3	65.1	21.5														27.00	2.13

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM NOVEMBER 29, 1884, TO DECEMBER 5, 1884.

GRAY, CHAS. C., major and surgeon (retired), died at Geneva N. Y., November 26, 1884.

KNEEDLER, WM. L., first lieutenant and assistant surgeon. Relieved from duty at Fort A. Lincoln, D. T., and ordered to Camp Poplar River, M. T. S. O. 140, Department of Dakota, November 25, 1884.

MCCAW, W. D., first lieutenant and assistant surgeon. Relieved from duty at Fort Wingate, N. M., and ordered to Fort Lyon, Col. S. O. 228, Department of Missouri, November 26, 1884.

PILCHER, JAMES E., first lieutenant and assistant surgeon. To be relieved from duty at Camp Poplar River, M. T., and ordered to Fort A. Lincoln, D. T. S. O. 140, Department of Dakota, November 25, 1884.

DEATH.

Died at Roxbury (Boston), Mass., December 7, 1884, Henry Austin Martin, M. D., M. M. S. S., aged sixty years, five months.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Obstetric and Gynæcological Section.* — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, December 17th, at 7.45 o'clock. Communications: Dr. Z. B. Adams, of Framingham, will, by invitation, read a paper entitled Objections to the Routine Practice of the Vaginal Douche after Normal Labor, following which Dr. W. S. Brown, of Stoneham, also by invitation, will read a paper entitled Forty Years' Experience in Obstetrics, including a criticism of Modern Methods, Anæsthetics, Instrumental Labors, etc. All members of the Massachusetts Medical Society will be welcome at the meetings of this Section, and are invited to take part in the discussions

JAMES R. CHADWICK, M. D., *Chairman.*
ROBERT B. DIXON, M. D., *Secretary.*

BOOKS AND PAMPHLETS RECEIVED. — Fifth Annual Report of the Associated Charities of Boston. November, 1884.

International Health Exhibition Lectures. The Rearing of Hand-Fed Infants. A Lecture delivered in the Lecture Room of the Exhibition, August 1, 1884. By Edmund Owen, M. B., F. R. C. S., Surgeon to the Hospital for Sick Children, Great Ormond Street. With an Introduction by Charles West, M. D., F. R. C. P. (Founder of the Hospital for Sick Children.) Printed and Published for the Executive Council of the International Health Exhibition and for the Council of the Society of Arts, by William Clowes & Sons, Limited.

The Physician's Visiting List for 1885. Philadelphia: P. Blakiston, Son & Co. 1885.

Hypodermic Injection of Ergot in Post-Partum Hæmorrhage. By P. C. Williams, M. D. Read before the Medical and Chirurgical Faculty of Maryland, April, 1874.

A Handbook of the Diseases of the Eye and their Treatment. By Henry R. Swanzy, M. B., F. R. C. S. I. With Illustrations. New York: D. Appleton & Co. 1884.

The Relation of Micro-Organisms to Surgical Lesions. By Henry O. Marcy, A. M., M. D., of Boston. (Reprint from Journal of American Medical Association.) Chicago. 1884.

Transactions of the Michigan State Medical Society for the Year 1884. No. IV. Vol. VIII. Lansing. 1884.

Pyuria, or Pus in the Urine, and its Treatment, comprising the Diagnosis and Treatment of Acute and Chronic Urethritis, Prostatitis, Cystitis, and Pyelitis, with especial Reference to their Local Treatment. By Dr. Robert Ultzmann, Professor of Genito-Urinary Diseases in the Vienna Polyclinic. Translated, by permission, by Dr. Walter B. Platt, F. R. C. S. (England), Demonstrator of Surgery in the University of Maryland. New York: D. Appleton & Co. 1884.

Original Articles.

APPARENT AND REAL AMAUROSIS.[1]

BY HENRY W. WILLIAMS, A. M., M. D.,
Professor of Ophthalmology in Harvard University.

THE importance of distinguishing between certain forms of supposed, and cases of genuine amaurosis, may excuse my offering to the Society a few brief illustrations of conditions in which amaurotic symptoms may either be feigned, or where, being actually temporarily present, they depend on disturbances of circulation or nutrition in the retina or optic nerve, arising from various causes, and allowing hope of recovery; as contrasted with cases of absolute amaurosis in which structural changes, resulting from direct or indirect injury or from antecedent disease of the cerebro-spinal system, render treatment useless.

CASE I. Mrs. ——, aged thirty, was brought to me by her physician in December, 1874, with a report that four months previously she had become suddenly blind, and had since then been unable to distinguish day from night; and that, moreover, she had constant intense photophobia and mydriasis.

Her eyes were closely covered with thick black bandages, and she strongly resisted all attempts to open them; but with much effort her physician was able to keep the lids raised sufficiently to allow of my making an ophthalmoscopic examination, which disclosed no morbid appearances. Nor could any abnormal conditions be discovered by external inspection. No dilatation of the pupils was observable, and they contracted readily under the stimulus of light. Although the lady professed to be utterly blind, I thought I detected at some instants a watching and furtive following of my movements. Her physician told me that she had had severe headaches, especially at the menstrual periods, which sometimes terminated in fits amounting almost to insanity, and requiring that she should be held. These fits sometimes passed off almost instantaneously.

The opinion I gave was, that the symptoms were hysterical manifestations; the asserted blindness not being indicated by any existing appearances, and the photophobia being perhaps at first feigned, and afterwards very possibly created by artificially induced mydriasis, and increased by voluntary and long-continued seclusion from light.

Tonics and antispasmodics, with insignificant mild local treatment, together with gradual habituation to more and more light, were advised; and an encouraging prognosis was given.

Seven years later I again saw her physician, who informed me that at the consultation he had considered me mistaken in my diagnosis; but this had proved accurate, and complete recovery of the patient had gradually taken place.

CASE II. In another similar case, seen in consultation with a physician in a neighboring town, sudden and absolute blindness was said to have occurred in a young lady. Her pupils were found to act sluggishly, but no external or internal evidence of disease of the eyes or brain was perceptible. Her simulation was, however, so perfect that we were unable during the examination to gain evidence of her perception of objects: but abundant proof of this was obtained later in the case, and whilst she pretended to be unable to distinguish day from night. Under tonic and expectant treatment the predicted gradual recovery ensued; but the hysterical temperament was marked, and the same game of imposition was repeated some time afterward at another place of residence.

CASE III. Miss ——, aged fifteen, consulted me on November 28th on account of a decline in vision occurring three weeks previously after a copious epistaxis followed by headache. A second hæmorrhage of less amount took place some days later. As she said, all objects appeared indistinct, and she had vision of only $\frac{1}{200}$ for reading; yet she could tell time by a clock at some distance. Vision was not improved by glasses. The visual field was limited towards the left side in both eyes. Color perception good. Action of pupils normal. No abnormal changes were discoverable with the ophthalmoscope. There was less than the usual amount of choroidal pigmentation; so that the vasa vorticosa were clearly visible. The general condition of the patient seemed to be good, but she had grown with extraordinary rapidity during the past year, which fact, with the considerable loss of blood, might allow of a diagnosis of anæmic amblyopia, as the cause of the lessened visual power apparently existing.

CASE IV. In May, 1884, Miss ——, after copious menorrhagia, lost the power of perceiving a gas flame with one eye, although still able to distinguish objects in the periphery of the visual field. No obvious changes in the retinal circulation, or other morbid appearances, were seen with the ophthalmoscope. Some degree of anæmia was probably present in the region of the macula lutea, causing the loss of central vision, which was entirely regained as the tone of the system was improved.

CASE V. Miss ——, aged thirty-six, was referred to me by her physician as a case of glaucoma. She gave me the following history: Nine months previously she had pain in the head and eyes, continuing two days. Belladonna was used to overcome contraction of the left pupil, but she thought its use increased the pain, and gave it up. Three weeks before I saw her, without known cause, as she says, her left pupil dilated, and has continued so. I found, however, that she could read with this eye with a glass of +4.5 dioptrics. No apparent changes could be seen with the ophthalmoscope at the fundus of either eye. The pupil contracted under the effect of myotics. The tension of globe was normal. The patient asserted that the field of vision was limited, but I was not satisfied that this was the fact. Both eyes had hypermetropia of +1. dioptric.

Tonics and moderate use of the eyes, with the application of a solution of eserine to contract the pupil, were advised. The patient continued under observation from time to time for several months; the focal power of glasses required for reading with the left eye varying at successive visits, and similar refractive conditions sometimes coexisting temporarily in the other eye. The observed symptoms might arise from mydriasis and paralysis of the ciliary muscle; but in this instance were probably induced by the stealthy use of atropia. Their factitious character was rendered probable by the entire absence of any discoverable cause of ciliary paralysis, and, especially, by the occasional temporary manifestation of similar phenomena in the other eye, as well as by the general demeanor of the patient.

CASE VI. Mr. ——, aged twenty-seven, had excel-

[1] Read before the Boston Society for Medical Improvement, December 8, 1884.

lent sight until five weeks before he consulted me in February, 1877, when the upper part, and a week later the lower part, of objects became blurred, and vision was soon after entirely lost in the right eye. About this time he had an abscess in the throat which discharged and healed. Four days before I saw him the same symptoms came on in the left eye, and at the time of his visit he only saw clearly objects held directly in front or to the nasal side of this eye. No history of specific disease was obtained. He smoked from three to six pipes of strong tobacco daily. The ophthalmoscope showed a paler optic disk and retinal arteries a little smaller than normal in the right eye; the left fundus had a normal aspect. Iodide of potassium with abstinence from tobacco were prescribed.

On March 2d his wife wrote that he had nearly lost the sight of left eye.

I saw him again May 21st. The right optic disk had a pale look, as of commencing atrophy. He could distinguish objects towards the nasal but not towards the temporal side. In the left eye there was some fullness of the retinal veins, the field of vision was not limited, and he could distinguish letters half an inch in height when held close to the eye, but had almost no distant vision.

He was directed to continue the previously prescribed treatment, and I did not again see him. A year from the time of his attack his wife told me that his vision with one eye was perfect, with the other nearly so.

The rapid onset and progress of the symptoms in this case would allow of the supposition that the abscess of the throat might have had some ætiological influence; the existence of specific causes might also be suspected; and, lastly, the symptoms might be attributed to the effects of tobacco.

CASE VII. Mr. ——, of Iowa, consulted me February 2, 1882, on account of failure of vision which began two weeks previously. He now sees at distance $\frac{20}{30}$, but cannot read with the right eye, and sees no objects with the left eye. Has suffered much from malaria. The optic disk and retinal vessels, especially of the left eye, had a rather anæmic look. I ordered Fowler's solution, tonics, change of air, and cheerful society. Six weeks later I saw him a second time, and found distant vision normal in both eyes, with an improvement in the retinal vascularity and in the aspect of the optic disks.

June 1st his vision was normal with the aid of a glass of +0.75 dioptries for reading fine print.

In this case there appeared to be some doubt whether the loss of visual power and the threatening appearances of the optic disk and of the retinal circulation of the left eye were to be ascribed to malarial influences alone, or perhaps, in part at least, to the effect of large doses of quinia.

CASE VIII. Mr. ——, aged thirty, consulted me on 26th of last January. Three weeks previously he had noticed dimness of vision in the left eye, and for a few hours could not see even a bright gas light. Three days later the symptoms had disappeared. His visual field and perceptive acuteness are now normal in this eye, and no changes can be observed at the fundus with the ophthalmoscope unless possibly a slight want of fullness in the retinal circulation.

A week before I saw him he had a similar attack in the right eye, with much pain in and around the eye, to that he was kept awake for two nights. He has now no pain around the eye, but a dull pain in the globe itself, which is increased by pressure. The tension seems to be slightly above the normal. He cannot count fingers at one foot distance with this eye, except with hesitation, and only within a small space at the upper part of the field. The pupil is sluggish and inclined to dilatation. The ophthalmoscope shows slight haziness of outline of the optic disk and marked fullness and tortuousness of the retinal veins. Iodide and bromide of potass., with ergot, were ordered. On the 4th of February he could count fingers with the right eye at all parts of the field, and the aspect of the disk was improved. April 19th he had vision of $\frac{20}{40}$ for distance, and could read No. 1 of my test-type with his right eye. The optic disk, the field of vision, and the tension of the globe had become normal, and he felt better in all respects.

There seemed to be no reason in this case to suspect that the amaurotic symptoms reported as having existed in the left eye were imaginary. The patient was an active business man, and not at all inclined to permit himself to be disabled from work. A temporary embolism of the retinal artery might be a sufficient, but would be an entirely improbable, explanation of the sudden accession of these symptoms and of their prompt relief without any treatment. The rapid recovery from the unmistakable neuritis of the right eye is noteworthy; the recuperative powers being evidently good.

CASE IX. Mrs. ——, aged twenty-eight, consulted me on October 31st last. She had always lived in a warm climate, but came to a Northern State fourteen months since. During the following winter she suffered greatly from cold, and had almost daily epistaxis, which was frequently copious. On one occasion she was carried home, after having fallen in the street and lost a large amount of blood in one of these hæmorrhages. The epistaxis still continues frequent. Since the birth of her son, three years since, her menstruation has been scanty. Last March she had a sudden attack of blindness, with only a perception of light, which was attended with severe pain in the region of the frontal sinus and in the forehead. The blindness continued for two weeks, and vision was afterwards gradually recovered. No morbid appearances can now be seen with the ophthalmoscope, and vision is normal for large objects. Her range of accommodation is slightly lessened, and she has some insufficiency of the internal recti muscles, and reads better with a convex glass of one dioptric. The exhausting hæmorrhages seem to be the only explanation of the temporary loss of vision.

In this connection it may be interesting to quote from the proceedings of the Ophthalmological Society of Great Britain at two meetings in July last, as published in the *British Medical Journal:* "Mr. Spencer Watson reported the case of a man who, after a fall of forty feet, was taken up unconscious. After swelling of the eyelids had passed off he was found to be absolutely blind, and ophthalmoscopic examination revealed engorgement of the optic disks. Loss of smell was also noticed. In a few days the sight improved, and at the end of six weeks was quite restored. The probable cause of these losses of sensory activity was a hæmorrhage in the middle and anterior fossæ."

"Mr. Nettleship read a paper on some cases in which acute inflammation seemed to take place in some small part of the optic nerve. They were characterized by

a failure of sight in one eye, often accompanied by neuralgic pain in the temple and orbit, and pain on moving the eye. The disk often becomes more or less atrophic in a few weeks. The result was variable, from complete recovery to total blindness. The failure of sight was usually at its worst in three days, except in the most severe cases; recovery when complete usually required about six weeks. Changes in the disk were by no means constant even in the worst cases. These cases had to be distinguished from embolism of the central artery of the retina, from progressive atrophy where one disk was affected before the other, and from uniocular neuritis due to disease of the corresponding lobe of the brain. In some of the cases the symptoms might be explained by a periostitis of the optic canal; in others the mischief could not have been so far back; in some a rheumatic origin seemed probable. The majority of the patients were between twenty-five and thirty. At least five of the twenty-four had had syphilis, and there was a good probability of it in six others. In four cases the affected eye became permanently blind; in eight, more or less damage was done; twelve, exactly one half, recovered."

"The president, Mr. Hutchinson, had seen one case of this class, a young lady with a marked arthritic history. One eye only was affected, and became quite blind. Subsequently there was a slight papilitis. The patient ultimately recovered almost completely. Three years later she had a threatening of the same condition in the other eye, but recovered completely."

I will not cite here in detail the not unfrequent cases where amaurotic symptoms are present, often in a high degree, in tobacco consumers, but quote a brief extract from the *British Medical Journal* for June 21st, which contains a report, by Dr. Charles Shears, of "forty cases of men suffering from loss of vision, which was, probably, due to the abuse of tobacco, who were treated at the Liverpool Eye and Ear Infirmary during ten months." "Of the forty cases fourteen recovered completely; fourteen improved greatly; of nine the subsequent history could not be traced because of non-attendance. In the three remaining cases no improvement took place after attending the hospital a reasonable time. Of these three cases two would not diminish their smoking; the third was a confirmed drunkard, and was afterward attacked with alcoholic paraplegia. In twenty of the cases no ophthalmoscopic appearances were found; in eighteen the disks were pale; in two they were hyperæmic. The failure of vision is usually rapid and very marked. This leads the patients to seek early advice, which may, possibly, explain why so few cases of genuine atrophy have been reported. In many instances the state of the disk greatly resembled that met with in tabes dorsalis.

It is usually the practice to give strychnia internally. This was done in twenty-eight cases, but patients seemed to make an equally good recovery where smoking was diminished alone.

As in cases of tobacco-poisoning, so also we find that the amaurosis produced by the prolonged administration of quinia in large doses is sometimes followed by atrophy of the optic disk and occlusion of the retinal vessels, whilst that arising from malarial poisoning tends rather to induce similar changes to those observed in the eye as an accompaniment of Bright's disease. Yet in all these conditions we hope, by removal or neutralization of the pernicious agencies before the structural alterations have gone too far, to obtain a favorable termination. Instances of temporary loss of vision accompanying diabetes or coexistent with albuminuria during the puerperal state, or occurring after flooding, will, naturally, suggest themselves to the practitioner as also tending to a fortunate result without local treatment being required. I reported in May, 1875, a remarkable instance of amaurosis with nystagmus, in a girl of eight years, occasioned by the presence of tape-worm in the digestive organs, which was relieved, after having continued several weeks, upon the expulsion of a large amount of tenia, which was effected by the use of anthelmintics.

We have seen that the retina and optic nerve have this resemblance to the brain, that they may be the seat of intermissions of function depending on disturbances of circulation or nutrition without the establishment of serious pathological alterations. Many of these cases of disorder of function have a special interest for the general practitioner, possessing, as they so often do, a diagnostic value in relation to conditions of the general system which have given rise to them, and requiring tonic, alterative, specific, or antimalarial treatment for their relief. Quite different are those other conditions of true amaurosis with atrophy of the optic nerve, resulting either directly from injury, from embolism of the retinal artery, from obliteration of the retinal vessels caused by phlegmonous retro-bulbar inflammation within the orbital cavity, or from disease of the cerebro-spinal system, where absolute structural changes render the prognosis entirely unfavorable and all treatment ineffective. Here much harm may be done by the use of too active remedial means.

Althaus, in his new work on Sclerosis of the Spinal Cord, says, "As I have found the general effects of strychnia injurious in tabes I would strongly dissuade practitioners from resorting to this drug whether for optic atrophy or other symptoms." Michel, of Wurzburg, testifies to the same effect: "The formerly highly recommended injections of strychnia have proved to be useless." He has a similar opinion as to the value of local depletion, of which he says, "The still very popular abstraction of blood from the temples by means of artificial leeches are to be regarded as useless, especially in inflammations of the iris and the ciliary body. If improvement of vision is observed soon after the depletion it is to be attributed either to the quiet of mind and body together with staying in a darkened room, which are usually advised after the abstraction of the blood, or the improvement depended on the nature of the disease." And again, in speaking of the treatment of myopia complicated with posterior staphyloma, he says, "Depletion from the temporal region is still frequently recommended, but I have been unable to convince myself of its value."

How a seemingly trifling lesion may cause loss of vision and subsequent atrophy from compression of the optic nerve will appear from the following case, which I will cite as an example of its class: —

A boy, ten years old, was brought to me on the 19th of September last. Three days previously he fell three or four feet from a fence, and, as he thinks, struck a projecting twig of a hedge, causing a small wound of lower lid near the inner canthus. There was a small ecchymosis of the ocular conjunctiva behind the situation of the wound of the skin of the eyelid, and a slight ecchymosis beneath the skin of both the upper and lower eyelids near the outer canthus. No other change was observable in the eyeball either upon ex-

ternal inspection or ophthalmoscopic examination, but there was no perception of light with the injured eye.

After the fall he went into the house where he was passing the afternoon, complained of faintness, said he thought he had lost his eye, vomited his dinner, and then went to sleep for an hour at least. At about five o'clock he rode a mile and a half to his home, and went at once to bed without eating. At the end of an hour he woke and complained of his head, as he had done when he first reached home. During the night he woke several times and said he had headache. He was in bed the whole of the next day, and seemed rather dull and heavy. The following day he was in bed, with the exception of two hours, but ate a fair amount of light food. When brought to me, after a twenty miles' journey, he seemed in good health and spirits. His pupil had been dilated by atropia by his physician. Bromide of potassium and quiet were advised. A week later the wound of lid was healed, and the ecchymoses had disappeared. On October 4th a small scar of the lower lid was the only obvious trace of the injury; a slight divergence of the eye observed at the first visit was scarcely noticeable. The movements of the pupil were sluggish, but there was no mydriasis. There was no evident change at the fundus of the eye, but the absence of light perception continued. A small fracture of the wall of the orbit or of the parietes of the optic foramen may have caused pressure of a bony fragment upon the nerve, but thus far no visible change had taken place in the circulation in the retinal vessels which penetrate the nerve within the orbital cavity, nor did the nerve itself show signs of the compression which had abolished its function of conveying impressions to the brain.

SOME POINTS REGARDING PUERPERAL CONVULSIONS, ILLUSTRATED BY TWO CASES.

BY CHARLES F. WITHINGTON, M. D.

THAT the unexpected is what happens in the matter of puerperal convulsions is a fact that must have presented itself to most practitioners. Eclampsia sometimes occurs when least looked for, and again when all rules teach us to expect it, it fails to appear. The following two cases seem to the writer of interest as bearing upon our means for predicting convulsions. To be forewarned is to be forearmed, and where so much depends upon prompt action it is obviously of great importance to be able to recognize every danger signal which nature puts up. When in spite of the danger signal the catastrophe does not occur, it does not necessarily show that the signal was a lying one, but rather that there has been some compensatory action of nature opposing and countervailing a danger which in itself was nevertheless real, and of which the sign we saw was no false witness.

CASE I. Mrs. B., age thirty-six, quintipara. The patient is a blonde, of plethoric habit, and of nervous temperament. Previous labors rapid and easy. When five months pregnant with her last child she had scarlet fever, one of her children at the same time dying of the disease. There was some dropsy following. As she lived at the time in another city the condition of the urine is unknown to the writer. This labor occurred some four or five years ago. The child was healthy, but died at the age of about ten months of a diarrhœal disease. In January, 1883, and following, the patient was under my care for debility, accompanied by severe cephalalgia. The pain sometimes appeared to be neuralgic and again was evidently intracranial. Neuralgic attacks in other parts of the body, notably the ovaries, were observed during the winter, which she said she had suffered from before. Examination of urine showed it to be normal. Her condition gradually improved, and she spent the summer of 1883 in Europe with benefit. Conception took place at about the time of her return in the fall.

Throughout the pregnancy the patient was miserable. Most of the time the lips were markedly purple. Dyspnœa and palpitation occurred on slight exertion. In the early months nausea and vomiting were rather troublesome, but stopped at the usual time. There was excessive œdema of the feet, also moderate œdema of hands and face. The left hand in particular felt numb, and partially devoid of sensation. Cyanosis under the nails. Headaches and flitting neuralgic pains were frequent. A sharp attack of sciatica at one time prevented her from walking. The bowels tended to constipation, but were kept regular by daily use of Hunyadi water. Appetite poor. Patient says she never felt nearly as bad in any previous pregnancy. Weeps easily and is depressed. The heart was examined two or three times and nothing abnormal detected. The urine, which was good in quantity and normal in density, contained no albumen until May 30th, when a very faint trace was discovered. But nothing abnormal appeared in the sediment at that time.

The expected date of confinement was June 26th. On May 30th there was an attack of epigastric pain, quite severe, and the urine was examined with the result given above. For the next ten days the patient continued to be on her feet somewhat, as she had been before, though for several weeks she had hardly been out of doors, feeling quite unable to walk from weakness and dyspnœa. Several endeavors to administer iron failed on account of its disagreeing. The same ill-success attended attempts to employ digitalis.

June 11th there was another exacerbation of symptoms; headache, and epigastric pain very severe. Nausea, no appetite, great lassitude, and some but not excessive mental depression. Sight unaffected. Considerable œdema of hands and feet. The urine, which was learned to have been diminished for the last few days, was measured and found to be twenty-two ounces for the twenty-four hours. Micturition rather frequent. Color high. Albumen one fourth per cent. Sediment uric acid crystals, a little blood, free renal epithelium and pavement epithelium, hyaline casts, some of which had whole renal cells adherent. From this time on the patient was kept constantly recumbent, and was given diuretics, dry cups over the kidneys, etc.

June 12th. The amount of albumen was much increased, amounting to about one per cent. The sediment as yesterday, but all the abnormal constituents, especially the hyaline and granular casts, were more abundant. Dr. W. L. Richardson saw the patient with me to-day in consultation with reference to the induction of premature labor, in view of the seeming danger of convulsions. Meantime the amount of urine for twenty-four hours had increased to thirty ounces. Although the cephalic and epigastric pain continued to be severe, yet in the absence of other imminent symptoms it was considered advisable to maintain an attitude of armed expectancy rather than to

terminate the pregnancy, on the ground that should convulsions occur, the same proceeding which was now under contemplation could be resorted to, with an assurance, then, that it was necessary and was not itself the cause of the convulsions, as might possibly be suspected if labor were induced now. Moreover in the remaining two weeks a constant maintenance of the recumbent posture might, by relaxing the tension on the renal vessels, effect such an improvement in the condition of the kidneys that the risk of convulsions would be materially diminished by the time labor set in. The last diminution in the amount of urine having occurred while the patient was taking digitalis, it was considered unadvisable to resume this. She was given chloride of iron in the form of a pill (Rabuteau's), with granular extract of malt, and special attention to feeding. The citrate of potash, which was given yesterday, was continued, as also the dry cups daily.

Our anticipations were realized. The urine increased daily for the following week, reaching fifty ounces and over. The albumen diminished greatly, and the casts became less frequent, though they were still present. The epigastric pain diminished, and she was quite comfortable when the labor came on a week later (June 19th). The only abnormality about the labor was a low attachment of the placenta which gave rise to quite sharp hæmorrhage during the stage of dilatation; so much so that the patient fainted and the pains died away. Considerable anxiety was felt, but after turning out three handfuls of clots from the vagina, a Barnes's bag (largest size) introduced into the os checked the bleeding and brought back the pains. As the head came past the edge of the placenta the hæmorrhage stopped while the bag was expelled. With the placenta after the birth came away a clot as big as the fist, which doubtless was formed *ante partum*.

The convalescence was favorable, but on the second day another severe attack of gastralgia occurred. The urine remained abundant, and an examination of it soon after the ceasing of the lochial discharge showed but a faint trace of albumen and no abnormal renal elements. Later, the albumen disappeared.

The questions of interest in this case are these: How imminent was the danger of convulsions at the time when the renal disturbance was at its maximum? What circumstances, if any, would have precipitated an eclamptic attack? What would have been the effect of an operation for the induction of premature labor at that juncture? What effect, if any, was produced upon the risk of convulsions by the free hæmorrhage which occurred during the first stage of the labor? What was the significance of the symptom of epigastric pain?

The answer to most of these inquiries can, of course, only be conjectural, as must be the case with all questions having reference to conditions that were not fulfilled. Regarding the actuality of the danger, we can only say that those renal conditions were undoubtedly present, which are generally admitted to be the prodromata of the great majority of cases of convulsions. We do not at present concern ourselves with the different theories of the pathology of this affection. But whether the convulsions are due to uræmia, hydræmia, or cerebral anæmia, the renal conditions indicated by albuminuria and casts undoubtedly do favor the occurrence of eclampsia. Braun found that sixty per cent. of the cases of acute and chronic nephritis together developed convulsions. Hofmeier reports 104 cases of convulsions in 137 of nephritis. Moreover the acute forms of renal disease are more likely to give rise to eclampsia than the chronic.

It seems reasonable to suppose that inasmuch as the renal trouble and the significant symptoms had developed progressively during the time while the patient had been on her feet, and as after she was put to bed the improvement began, it was at least as much owing to recumbency as to medication, and that had she kept about the house an attack might have been precipitated. Moreover, as we know that sixty per cent. of the whole number of convulsions occur during labor itself, it seems not improbable that had labor come on either naturally or artificially during that period when the kidneys were most disturbed in their action convulsions might have occurred.

Whatever may be the effect of venesection in eclampsia, the same probably would be that of a free uterine hæmorrhage. I believe that in this case with the mitigation of the symptoms the immediate danger of convulsions had largely passed away at the time labor occurred. But the persistence of a moderate albuminuria and the fact that the supposed cause of the renal disturbance, namely, the pregnancy, still existed make it possible that there was still some danger. Testimony is tolerably unanimous that at least the primary effect of venesection is favorable in eclamptic cases by reducing the blood pressure. Even though the pressure should soon come up again with an additional degree of hydræmia from the bleeding, yet something would have been gained temporarily, which, with the subsequent removal of the exciting cause, might leave a definite gain to the credit of the venesection. All this may equally be said of a hæmorrhage, accidental or unavoidable. It may be of interest in this connection to remember that post-partum hæmorrhage is an especially frequent occurrence in conjunction with eclampsia.[1] Whether this is to be taken as a natural attempt at therapeusis we venture no opinion.

In a paper by Dr. Goss, read before the Boston Society for Medical Improvement,[2] special attention is called to severe epigastric pain as a precursor of eclampsia. In the discussion that ensued several instances of this symptom were referred to both with and without convulsions. In the latter case the urine was albuminous and contained casts. In Leishman's System of Midwifery epigastric pain is given as one of the three cardinal symptoms of impending convulsions. Now in my patient, although the attack of June 11th was by far the severest one she ever had had, yet gastralgia, in no way differing, except in degree, from that attack, had, in common with other neuralgic manifestations, occurred to her from time to time before, and has once or twice since the labor, having a marked connection with fatigue and worry. So that I do not feel sure that this pain had any distinctive relation to her albuminuric condition. As a marked instance of such a relation, however, I will cite the following: —

Case II. Mrs. D., aged twenty-eight, secundipara, brunette, of full habit. Kindly referred to me by Dr. Sumner. The date of confinement was uncertain. Catamenia last November 5, 1883, but patient says in her previous pregnancy she menstruated once or twice after conception, and she is confident from personal data that in this instance pregnancy could not have begun

[1] Lusk's Science and Art of Midwifery, p. 528.

[2] Boston Medical and Surgical Journal, November 13, 1884.

later than the end of September. Condition good during the early part of pregnancy. At about April a swelling of the veins of the left labium began, which increased gradually to the size of a hen's egg, disappearing when she was recumbent. She expected her confinement about July 4th, and had her nurse in the house from that time on. From that date she became considerably worried, thinking she was going so much over her time, from which opinion she could not be persuaded. She had first felt motion about March 13th, and my estimate of her time of labor was from the 11th to the 15th of August. After the beginning of June she remained indoors almost altogether, avoiding walking on account of the varix as well as of swelling of the feet and hands, which was considerable. Says also that her face is much altered, though no well-marked œdema is observed there. The discomfort was no greater than was to be expected from her advanced pregnancy. August 14th, the œdema being considerable, I examined the urine and found it abundant in quantity, with a questionable trace of albumen, but no casts.

On the evening of August 19th her husband called to say that she was complaining of intense pain at the pit of the stomach. I prescribed for her, but did not visit her until the following morning. On that day the pain at the stomach still continued, and there was slight headache, but no impairment of vision. Œdema not excessive even in feet. There was some nausea but no vomiting. No especial mental depression. I advised her to stay in bed for the most part during the rest of her pregnancy. While sitting in a chair at five P. M. of this day she complained suddenly of her head feeling very bad, and had a convulsion. I was sent for at once, but was absent from home. At 5.30 she had a second convulsion. My neighbor, Dr. J. S. Flint, was then called, and arrived at six o'clock, just in time to witness a third convulsion. On my arrival, at 6.15, I found the patient unconscious in a state of coma, from which she soon partially emerged. The condition of the os showed labor to have begun. A subcutaneous injection of four minims of Magendie's solution had been made at six o'clock, and this was now followed by ten grains of chloral, the patient being able to swallow. Dr. Flint, at my request, kindly remained till the labor was completed, and gave me valuable assistance in the management of the case. At 7.30 o'clock occurred the first convulsion after my arrival (the fourth in all). Ether was administered during this seizure, and in the succeeding stage of unconsciousness, from which she did not emerge before the next attack, manual dilatation of the os was performed. In course of an hour the os was expanded from the size of perhaps two centimetres to five centimetres. Then as more active pains were coming on we waited to see what they would accomplish. At 8.30 a fifth convulsion occurred. Ether was then continued after the seizure ceased, and the forceps applied at the brim. Locking was effected with some difficulty, and traction made gradually and continuously. At 9.30 o'clock a male child, weighing eight and one half pounds, was delivered without perineal rupture. The placenta not following within fifteen minutes, and there being little uterine action, I introduced my hand and scraped it off. It was remarkably large, but otherwise normal. Respiration did not become established in the child for some fifteen or twenty minutes, but afterwards went on properly.

The patient lay mostly unconscious until two the next morning, when a sixth convulsion occurred. She was given chloral by rectum, and one fourth grain of Magendie's solution, followed, as soon as she could swallow, by one fourth grain elaterium. This was repeated twice (in all three fourths grain) at intervals of two hours, and produced free catharsis. The seventh and last convulsion occurred at six A. M. She was made to swallow a mixture of the citrate and acetate of potash in frequent doses, and dry cups were applied to the loins. She regained her consciousness in a measure in the afternoon of this day, and was very peevish and irritable. She also passed urine in good quantities. Unfortunately the urine which I drew at the time of applying the forceps was thrown away by the nurse, and no more could be obtained free from admixture with lochial discharge. From the testimony of the nurse it is pretty certain that during the afternoon and night of the convulsions the urine was greatly diminished in amount. After she fairly regained consciousness she was unable to micturate, and the urine had to be drawn by catheter until she was able to sit on a vessel. The convalescence was uninterrupted and normal in every respect. Her recollection of the occurrences for about twenty-four hours from the time of the first convulsion was altogether wanting, and, as she afterwards said, she was not herself for several weeks. For instance, on attempting to write, she found herself unable to spell common words, and on trying to look them up could not find them in the dictionary. Her conversation seemed to her friends strange, and she was conscious that she acted and talked queerly, apologizing after she had quite regained her natural self for what she thought she might have said "wrong" during the few weeks after her labor.

In this case the epigastric pain was very marked, being by far the most noticeable precursor of the convulsions. Had I been aware then of the significance of this symptom, I should have been led to make another examination of the urine, which would, probably, at that time have given the evidence that a week before it failed to present of the impending catastrophe.

Regarding the treatment of convulsions, it is not my present purpose to speak. Suffice it to say that I believe the favorable result in this case was due largely to what is of primary and vital importance whenever convulsions occur before delivery, namely, the emptying of the uterus with all possible alacrity.

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M. D., AND H. L. BURRELL, M. D.

SPINA BIFIDA.

LÖBKER[1] reports four cases operated upon by him. The first, seven weeks old, presented a tumor of the size of an apple in the lumbar region. Five grammes of the fluid of the cyst were drawn out by means of a subcutaneous syringe, and two grammes of a freshly made solution of pure iodine 0.5, iodide of potash 1.0, water 30.0 injected in, and slight compression was applied. This procedure was repeated three times at intervals of from five to eight days. Recovery followed, with shrinking of the tumor, so that a year later a small tumor of the skin of the size of a silver quarter was all that

[1] Centralblatt f. Chirurgie, No. 33, 1884, p. 539.

remained. A year and a half later the child was reported as well.

A second case was operated upon twice when from eleven to twelve weeks old. The interference was well borne and the tumor became smaller, but further treatment was discontinued, and the child subsequently died. The third child was five days old, the tumor was in the lumbar region. The pedicle was tied by two ligatures, the sac cut off, and the wound dressed with iodoform gauze. The child is reported to have been discharged well. A fourth case was that of a child four months old, with hydrocephalus. Death resulted from ligature and extirpation.

Löbker advises insertion of the needle of the subcutaneous syringe into the base of the swelling, and compression of the base so that the iodine should not enter the canal.

A child [1] aged two months, female, had a tumor the size of a peach in the middle line, opposite the two last cervical vertebræ. It had a pedicle an inch and a half in circumference. The tumor was soft and fluctuating; under strong pressure it diminished in size, causing the child to cry and have slight convulsive movements of the limbs. The tumor was half emptied of a thin, transparent liquid of alkaline reaction. The pedicle was constricted by a couple of turns of elastic ligature. At the moment of constriction the child cried, became livid, and some clonic movements were excited, but in a few hours these subsided.

On the sixth day there was vomiting, a tendency to coma, and twitching of the upper limbs, but after this they did not return. The ligature separated on the twelfth day.

NATURE OF RICKETS.

Korsakow — in his inaugural thesis at Moscow — considers the following questions: —

(1.) Whether a diet poor in lime salts in young animals produces changes in the bones analogous to rickets? (2.) What influence phosphoric acid and carbonate of lime will have added to this diet? (3.) What influence lactic acid has upon the bones of young animals?

In endeavoring to find an answer the writer instituted a series of experiments upon growing animals with the following results: —

Changes in the structure of bone similar to those observed in rickets in man were produced by food poor in lime salts, which changes can be prevented by the addition of a sufficient quantity of phosphate of lime. These changes also result when a diet rich in lime salts is administered if the lime salts are not properly absorbed by the digestive apparatus. Lactic acid did not produce any rachitic changes, but small doses of phosphorus, and also of strontium combined with improper diet, will produce such changes.[2]

FLAT FOOT.

According to Henke, the primary cause of the distortion of valgus is a relative weakness of the tibialis posticus which allows the abnormal pronation of the front of the foot; secondary alterations take place in the shape of the bones from the altered pressure. H. v. Meyer agrees in the main with this view, believing that the arch of the foot is laid upon its side, but not broken, and in confirmation of this view found that the calcaneo-scaphoid plantar ligament was not lengthened. Lorenz [3] explains the deformity in much the same way. The foot practically consists of two arches or trusses, an outer and an inner. When weight falls upon the foot a slight pronation occurs, and the inner truss in a measure slides on the outer. If the weight is greater than the foot can sustain the outer truss is flattened, the astragalus twisting on its transverse axis, and the inner truss falls to the inner side. Irritation of the joints follows, and contraction of the muscles takes place.

Terrillon [4] found on examining three persons with acquired flat foot, with pain and tenderness, a paresis of the peronei and tibialis anticus.

Verneuil distinguishes three classes of this trouble: in the first a contraction of the peronei is the primary trouble; in the second paralysis of the tibiales muscles; the third, an arthritis of the tarsus.

Despres considers that there are three stages of the trouble: first, a paresis with slight flattening of the arch of the foot, with occasional contracture of the extensors; second, flattening, with a contraction of all of the muscles of the feet; and third, contraction, with alteration of the bones. The only rational treatment consists in the application of electricity and the employment of an apparatus which holds the foot in the proper position.

THE PATHOLOGY OF CLUB-FOOT.

Mr. R. W. Parker and Mr. Shattock [5] have completed their paper advocating the mechanical mode of causation of this deformity. Their opinion rests on the careful dissection of five cases (three varus and two calcaneus) and on a study of the various specimens in the London museums.

The contention was that there was nothing especial in this deformity, and nothing which might not occur in other joints. In one of the cases there was histological integrity of the affected limb, but there was some extra obliquity in the neck of the astragalus. In another case, however, there was no such malformation of the astragalus. Hence they argued the insufficiency of the usually accepted theories, nerve lesion or bone deformity.

It was shown that the conformation of the astragalus which ordinarily exists in talipes is the normal condition of simiadæ, and these animals are not talipedic.

As proofs of pressure in new-born children, instances of torsion of bones of the leg and of the astragalus were referred to, also a case where depressed patches of atrophied skin, with bursæ existing, were found over the external malleolus and over the head of the astragalus like those found in persons who had walked on an unreduced talipedic foot. The varieties of varus and calcaneus were thought to depend on the date of onset, and to be in both cases an exaggeration of normal positions at some time in fœtal life.

EXCISION OF TENDO-ACHILLIS IN TALIPES CALCANEUS.

Mr. Walsham [7] has excised from one half to two thirds of an inch of the lower end of the tendo-Achillis in four cases of talipes calcaneus. The section of the tendon was made obliquely from above downward, and before backwards, and the divided ends were united

1 Giornale di Clinica e Terapie, July 19, 1884.
2 Centralblatt f. Chirurgie, No. 26, June 28, 1884.
3 Centralblatt f. Chirurgie, No. 19, 1884, p. 315.
4 Centralblatt für Chirurgie, No. 39, p. 650.
5 British Medical Journal, May 24, 1884, p. 998.
7 British Medical Journal, June 14th.

by kangaroo tendons. All were improved. Two regained the power of flexion and extension of the foot.

RESECTION OF MUSCLES IN INFANTILE PARALYSIS.

Mr. Keetly [1] has recently undertaken the resection of part of the quadriceps extensor femoris in a case of infantile paralysis causing inability to extend the right knee. A longitudinal incision was made in front of the thigh about three inches in length, and extending an inch above the patella. The skin was held apart by retractors, and an inch of the entire substance of the muscle was removed with scissors about two inches above the patella. A dozen carbolized catgut ligatures were used to unite the two ends. Esmarch's bandage had been applied before the operation, and only one small artery required ligation. The wound was dressed with an iodoform pad and antiseptic gauze. A splint was applied which made an angle of sixty degrees with the bed.

Mr. Willett has [2] already resected the tendo-Achillis in paralytic calcaneus with good results. He found that the shortening of abnormally elongated tendons enable the muscles of the calf to regain some portion of their lost functions.

TREATMENT OF CHRONIC AFFECTIONS OF THE JOINT OF THE LOWER EXTREMITY.

Caumont [3] generalizes on the cases of disease of the hip, knee, and ankle observed in the hospital at Münsterling between the years 1871 and 1881, 212 in all (and sixty-nine resections).

Of the eighty-five cases of disease of the hip-joint which did not undergo resection the result was the better the earlier the cases came under treatment. For example, of eleven patients treated from the earliest stage nine recovered perfectly, while of twenty cases in which treatment began in the stage of inflammation fourteen recovered and four died. Of the thirty-nine cases treated first in the third stage, but without resection, only nineteen recovered with but little deformity, seventeen died, and three were but little improved. Forty-four were excised with a mortality of 61.03 per cent. Of twenty severe cases, but without marked suppuration, five died, twenty-five per cent. mortality; while of ten similar cases resected five died; a mortality of fifty per cent. Of nineteen severe cases with suppuration, treated without operative interference, a mortality of 63.01 per cent. is recorded; and of twenty-three similar cases which were resected the mortality was about the same, 63.07; while the percentage of recovery with slight deformity was somewhat greater in the excised than in the non-excised cases.

The author quotes Ollier in regard to resection: — "Les resections les moins nécessaires pour la conservation de la vie sont celles qui donneront les résultats les plus brilliants au point de vue de la reconstitution d'une articulation nouvelle."

Of the knee-joint the mortality in ten cases (without suppuration) and not resected was ten per cent; fifty per cent. recovered; forty per cent. lived, but with a limb of little use, and of these one underwent amputation. Three similar cases submitted to excision. Two recovered with useful limbs; one recovered after amputation. Twenty-five suppurative cases gave a mortality after expectant treatment of sixty-four per cent.; thirty-six per cent. recovered, but two of these cases underwent amputation. Twenty-nine suppurative cases resected gave a mortality of forty-four per cent., and four of the cases were amputated.

Nine severe cases of caries of tarsus gave the following figures: two died; two were amputated; two recovered; three did not recover. Seven cases were resected, and two of these were cured, two uncured, and three died.

(To be concluded.)

[1] British Medical Journal, May 31, p. 1058.
[2] Ibid.
[3] Deutsche Zeitschr. f. Chirurgie, Bd. xx., 3 and 4.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M. D., SECRETARY.

NOVEMBER 24, 1884. The PRESIDENT, DR. CHARLES D. HOMANS, in the chair.

ACRANIA AND SPINA BIFIDA.

DR. W. W. GANNETT showed a fœtus, which was of about seven months, and which presented the characteristic appearances of that form of monstrosity known as acrania, together with spina bifida. There was no appreciable neck, the ears resting upon the shoulders, and the eyes turned upwards. The cranial bones were wholly wanting, their place being occupied by a membranous sac about the size of a peach, containing thin fluid and a small amount of brain substance.

A hydrocephalus occurring early in fœtal life was the most satisfactory explanation yet advanced to account for such changes.

The spinal column was interesting from the fact that the arches of the vertebræ, together with the spinal cord, were absent.

DR. BUCKINGHAM said that the mother was a patient of Dr. George W. Gay. The interesting clinical fact, aside from delivery at seven months without obvious cause, was the difficulty in making out the presentation. There seemed to be a cross birth, but it was not possible to determine at which extremity lay the head. The fœtal heart was not to be heard. In vaginal examination, before rupture of the membranes, the finger struck upon what seemed like the extremities of fingers, or like a row of teeth; but which proved to be the union of the ribs with the vertebræ. The presentation being probably transverse, the os three quarters dilated, and the patient beginning to tire, Dr. Gay ruptured the membranes and delivered by the feet. There was a very large amount of amniotic fluid.

As the only other pregnancy had ended in abortion at three months, the question of syphilis had been carefully considered, but there was no history of syphilitic symptoms.

CYST OF THE BROAD LIGAMENT.

DR. J. W. ELLIOT showed a cyst of the broad ligament which he had removed two days before by abdominal section. The cyst was about the size of a cocoanut, and contained a pint of clear fluid. The Fallopian tube was much enlarged and coiled around the cyst. The ovary being about two inches long was also removed. Dr. Elliot had begun to shell the cyst out of the broad ligament, but when he found the tube and ovary diseased had clamped the whole broad ligament. The cyst was adherent to intestines and to mesentery.

He had succeeded in removing it through an opening of two inches in the peritonæum. In reply to questions he stated that the patient had not had a bad symptom since the operation; the temperature going only to 100° F.

DR. J. C. WHITE read a paper entitled Psoriasis — Verruca — Epithelioma; a Sequence.

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THE USE OF COCAINE IN THE NOSE.

DR. F. H. HOOPER spoke of the effects of this drug in a case of acute coryza. The left nostril was completely occluded; the right only partially. The sense of smell was absent. On applying a two per cent. solution of the muriate of cocaine to the interior of the nasal cavities by means of a cotton-tipped probe, free respiration was immediately established, the sense of smell returning at the same time. The nose remained perfectly free for three hours, when it began to close up again. This was followed in about an hour by a partial reopening, but at his second visit, five hours after the first application, the left nostril was again absolutely stopped, the conditions, in fact, being the same as at the morning visit. Cocaine was again applied in the same manner, and its use was followed instantly by the same result. Both nostrils have since (two days) remained open. He had also used it in a case of chronic hypertrophy of the nasal mucous membrane with the effect of causing a very notable contraction of the swollen tissue. Dr. Bosworth[1] was the first, as far as Dr. Hooper was aware, to call attention to the use of cocaine in the nose. Dr. Bosworth supposes that it produces its effect by causing a tetanic contraction of the muscular fibres which are found surrounding the venous sinuses which form the erectile tissue of the nose.

DECEMBER 8, 1884. The President, DR. CHARLES D. HOMANS, in the chair.

HYDROCHLORATE OF COCAINE.

DR. CHARLES H. WILLIAMS stated that, assisted by his brother, he had experimented on himself with cocaine subcutaneously, taking in the arm five one half grain doses at half-hour intervals. There had been partial local anæsthesia extending a short distance up and down the arm, and to a less distance around it. The skin was tested by calipers, and seemed to have lost none of its sensitiveness except near the place of injection. In the throat, reflex spasm did not occur when the pharynx and larynx were touched by instruments. The effect of the drug passed off in about two hours, and other tests were not made on this occasion. He had also applied cocaine to the gum before allowing a tooth to be filled, but did not think it had been of any service. In his hands it had diminished pain when applied before passing the lachrymal probe.

DR. H. W. WILLIAMS had been told by a dentist of large practice that it was not of use in dental operations.

DR. WADSWORTH quoted a recent journal that a Prussian druggist had taken fourteen grains of cocaine by the mouth, then fell asleep, but waked after a time with griping pains in the stomach. There were one or two other symptoms of no great moment. No serious ill effects. He had a number of times greatly lessened the pain of probing the nasal duct, in sensitive patients, by placing two or three drops of a two per cent. solution in the conjunctival sac.

The drug was of value also for another purpose, which he had not seen referred to, for the relief of a certain form of headache. A day or two after he first obtained some of the solution a young lady came to him suffering from headache, to which she was subject. Her drooping lids and whole demeanor were characteristic of headache. The larger part of the pain was referred to the eyes, and it occurred to him to try the effect of cocaine. In a few moments after placing a drop or two on the conjunctiva of each eye the pain in the eyes was wholly relieved, the lids opened naturally, and the lady's whole appearance was changed. Pain in the top of the head and at the root of the nose was still felt, but the total amount of pain was so much lessened as to give little inconvenience. Dr. Putnam, to whom he mentioned the case, had tried the remedy in one or two instances with advantage. In one or two cases in which the pain was not especially in the eyes there was no effect.

DR. HAY said that he had excised a piece of xanthelasma from each eye, one of the pieces being five eighths of an inch long. The patient had been previously treated with cocaine, and there seemed to be little discomfort.

PNEUMO-THORAX.

DR. LYMAN presented three cases of pneumo-thorax, and said, "It is so unusual to have three cases at once and in such condition as to allow of their presentation together for comparison, that I think the Society may be glad of the opportunity to examine them. They are of interest as illustrating different varieties of the disease, one being of surgical or traumatic origin, one due to tubercular ulceration from the lung outward, and one following pleurisy, it being doubtful whether the perforation was from the lung outward or vice versa. I am indebted to Dr. Mason for the statement that in his ten years' review of the hospital records he found no case of simple pneumo-thorax, and none in which the generation of gas from pus was suspected. The probability of such a phenomenon is discredited by many writers.

"The first case (Hart) is nearly well, so that the pathognomonic phenomena, which were well pronounced, must be gathered from the hospital records. It exhibits, however, in a marked degree the resultant phenomena of a typical case of traumatic pyo-pneumothorax. The respiration, as you will see, is nearly restored, but the flattening of the chest is well marked, and owing to the large effusion of lymph the ribs remain nearly quiescent and the heart somewhat displaced. Inflation of the lungs is at the expense of the diaphragm.

"The second case (McGuire) is a typical case of hydro-pneumo-thorax from pulmonary tubercular ulceration into the pleura. The date of the perforation with its accompanying symptoms cannot be ascertained with certainty. The cause of the temporary hemiplegia is also problematical. The percussion, metallic tinkling, and splashing speak for themselves.

"The third case (McCarthy) is interesting in many aspects, especially so with regard to the prognosis. A fairly healthy boy of seventeen, whose mother died of phthisis, was while in apparent health attacked with the ordinary signs of acute pleuritis. For this he was tapped twice before entering the hospital, about three pints of serum being obtained each time, the first

[1] New York Medical Journal, November 15th.

clear, the second slightly cloudy. Ten days before entrance, and between two and three weeks after the second tapping, he states that he was *suddenly* seized while ascending the stairs with a sharp pain in the left chest, followed immediately by severe dyspnœa. Possibly there was at that time some slight rupture of the pulmonary pleura, or perhaps some slight injury to that membrane at the last tapping may have resulted in ulceration; or again, it may be one of those cases which have given rise to the belief in the secretion of air by the pleura itself. We can at any rate exclude, as cause, decomposition of the fluid; inasmuch as there was no previous empyema. However this may be, it seems probable, in view of the absence of any marked signs of pulmonary disease, that the opening was from the cavity rather than from the lung. He has had no cough or other signs of any *ulcerative or softening* process in the lungs up to the present moment. He is somewhat anæmic, and emaciated, and the presence of moist rales were reported in the early history of his disease, but nothing which is not readily explicable on the theory of pleuritis alone.

"The subsequent treatment depends on circumstances. Possibly the pulmonary orifice, if such there be, may be closed by lymph, and thus exclude one factor; but as the fluid which I removed at the third tapping, five days since, was somewhat purulent a permanent opening may soon become necessary."

CASE I. Hart, aged twenty-three, single, occupation upper cutter, entered the City Hospital in the service of Dr. G. B. Shattuck August 9, 1884. His father died of phthisis. Had pneumonia four years ago. In June last he received three stabs from a jackknife. Two of them, one in left side and one above right clavicle, were superficial, but the third penetrated the chest at the first right interspace a little inside the line of the nipple, and was followed immediately by intense dyspnœa, and soon after by rigors, pain, cough, and expectoration. At a later period a permanent opening was made by Dr. Latimer, of East Cambridge, in the tenth right interspace one and a half inches posterior to axillary line. The pus was very fetid, and the chest was washed out with some antiseptic solution. On entering he had a large bed-sore over the sacrum, and had diarrhœa; the original wound was found nearly healed, and the pus from the dependent permanent opening was very offensive. The probe entered easily inwards and upwards in a line towards the nipple. The clavicles were prominent, right ribs sunken, and with little motion. Movements of left chest exaggerated. Whole right front and back markedly tympanitic, and vocal resonance absent below angle of scapula. Percussion somewhat dull below sixth rib in left axilla and outer part below angle of scapula. Resonance exaggerated over rest of left lung. Over whole right front respiration much diminished, slightly amphoric, especially below line of nipple, where the sounds are increased and metallic with pectoriloquy. Over left front no râles. In left axilla below sixth rib slightly bronchial with slight bronchophony. Same signs in left back below angle of scapula, with a few fine and medium moist râles after cough, and increased fremitus. The cardiac area extends one inch outside the mammary line, and upwards to upper border of third rib. Three days later a double drainage tube was inserted by Dr. Shattuck and fifteen ounces of thick, offensive pus removed. Cavity washed out with carbolic solution (one to eighty) morning and evening for following week. Patient now able to sit up half an hour at a time.

August 20th. Exchanging tube for a shorter one, a pus pocket was discovered. Diarrhœa still continues.

August 21st. Pus more fetid. Solution of corrosive sublimate 1 to 2000 substituted for carbolic wash. The diarrhœa ceased early in September, and the middle of the month he was moved to tent on the lawn. Sits up each day, though with some pain in right flank.

September 30th. Respiration now extends nearly to base of right back. Percussion still tympanitic.

December 1st. No change has been made by me in the treatment as directed by Dr. Shattuck. Removal from tent to ward in October induced some temporary discomfort only. The tubes have been gradually shortened, and to-day the washings omitted and tube removed. Small sinus through the parietes only. Walks nearly erect. Still slight tympany over right front and diminished respiration, especially below lower angle of scapula. Heart and liver gradually resuming normal position.

December 7th. Sinus healed, and patient ready to leave hospital at any time.

CASE II. McGuire, aged thirty-five, entered hospital with phthisis, October 13th. Has had cough for a year, and last spring a hæmorrhage of doubtful origin. Expectoration abundant and greenish. Two months since had paralysis of motion and sensation on left side lasting for six days, when the hemiplegia gradually disappeared. Complains now of dyspnœa, pain in loins, back, and in chest near ensiform cartilage. No night sweats.

In semi-prone position dullness is found below right clavicle with abundant moist râles, and to a less degree over whole right front. Percussion tympanitic over left front, especially between nipple and right edge of sternum; becomes flat at lower border of fifth rib. Metallic tinkling and absence of respiration over left front.

In erect posture dullness half an inch above angle of scapula, and above this line slightly tympanitic. Respiration faint. Right supra-spinous fossa dull, with moist râles extending over right back. Respiration harsh and exaggerated.

Tinkling and splashing in the left back.

The heart apex is in the fifth right interspace half an inch inside the nipple. The left border of the cardiac dullness is two inches to the right of the median line of the sternum. No murmurs.

The liver dullness extends two inches below the ribs.

CASE III. McCarthy, aged seventeen, entered the hospital November 15th. His mother died of phthisis. Had been taken sick ten weeks before with cough, dyspnœa, pain in side, chilly sensations, and loss of weight and strength. Neither hemoptysis nor night sweats. Chest had been tapped twice, seven and four weeks before entrance, getting about three pints each time, the first being clear, the second cloudy. Says that ten days ago while ascending stairs he was seized with a sudden sharp pain in left chest and aggravated dyspnœa. Present condition comfortable, good appetite, no pain. Temperature 98.2° F.; pulse 100; respiration 24.

In recumbent position there is tympany over the whole left front to the lower border of the seventh rib in the mammary line. Respiration and vocal fremitus diminished. Voice unduly clear. Respiration over right front harsh and exaggerated.

In erect position left front flat below. Splashing and metallic tinkling above.

Normal area of heart tympanitic. Apex sounds loudest just below ensiform. Right border one and seven eighths inches to right of sternum. Liver depressed one and one fourth inches.

December 1st. Tympany, in recumbent posture, over left front down to lower border fifth rib; in erect posture line of flatness rises to upper border of second rib with diminished respiration and absence of fremitus, with the heart a little farther to the right.

December 2d. Fifty ounces of slightly purulent fluid removed to-day to relieve dyspnœa.

December 7th. Liver still depressed, respiration on right side extends to the seventh rib. Splashing very evident on succussion.

Dr. F. C. Shattuck remarked on the great treat which Dr. Lyman had afforded the Society by the simultaneous exhibition of three cases of pneumo-hydro-thorax, illustrating so admirably as many modes of origin of the condition. As a complication of phthisis pneumo-hydro-thorax is not so rare; but special interest is attached to the man who was stabbed, and to the third case in which the lung seemed to be sound. Dr. Shattuck treated the case of a young man, a druggist's clerk, who was brought into the Massachusetts Hospital some years ago, and whose chest wall was perforated by one of those lance-head shaped knives, used for erasing writing, in the hands of a fellow clerk with whom the patient was "fooling." General pneumothorax resulted, but no fluid was thrown out, and the man made a rapid recovery.

Dr. G. B. Shattuck said that corrosive sublimate 1 to 2000 was used in washing out the thorax of the first case while in his care, and it had been more satisfactory than anything else he had ever used.

Dr. H. W. Williams read a paper on

APPARENT AND REAL AMAUROSIS.[1]

Dr. Wadsworth said the first case reminded him of a patient, a chronic invalid from asserted hip or spinal disease, who complained of photophobia so great that her room must be constantly darkened, and when she drove out the windows of the carriage were also darkened and her eyes bandaged. By proceeding carefully he was able to make an ophthalmoscopic examination, even of the macular region, without eliciting any sign of annoyance. It is often difficult to distinguish real from asserted loss of sight without ophthalmoscopic examination; even sometimes with it. If there is perception of light in neither eye the pupils should be dilated and without reaction; if one eye only is blind its pupil varies with that of the other eye, but dilates when the other is covered. Should blindness not be total, however, the value of this symptom is lost. He referred to the case of a young woman who had accidentally discovered that the sight of one eye was much impaired. Five weeks later, when she presented herself, the eye was wholly blind. Externally and on careful ophthalmoscopic examination both eyes appeared quite normal, with the exception that the pupil of the blind eye was dilated and immovable when the other eye was covered. There had been no other symptom, general or local. The case was somewhat of a puzzle, but the condition of the pupil and the absence of any symptom of hysteria allowed no doubt as to the truth of the blindness. For two or three weeks the condition was unchanged, then the patient was lost sight of for six months; and when she reappeared there was pronounced atrophy of the disk. The influence of reflex action in causing temporary loss of sight was illustrated by the case of a gentleman struck on the lower lid by a stick. An hour afterward the lid was ecchymosed and very sensitive, there was photophobia, the pupil was smaller than that of the other eye, but in other respects the eye was externally normal. Vision was only $\frac{6}{75}$. Homatropine and a night's rest restored sight.

The difficulty in detecting a malingerer who has studied the subject may be great. An applicant for a pension wore dark glasses, complained of sensitiveness to light, and asserted that one eye was almost completely blind, vision of the other very much impaired. He imitated the behavior of an amblyope very well. On examination with test types at different distances his answers were consistent. He bore ophthalmoscopic examination, however, without giving evidence of sensitiveness to light, and his fundus was normal in both eyes. On testing the blind eye by thrusting the finger suddenly at it while the other was covered he did not wink; but he went too far, for even when the finger touched the cornea he made no sign. Finally, with paralyzed accommodation he was given spectacles containing a strong convex glass before the blind eye, a concave glass before the other. With these he read slowly large print at six inches. The reading must have been done with the asserted blind eye.

Dr. Edes had seen one of the cases (No. III.) reported by Dr. Williams. The young lady was sent to him by another oculist who suspected some constitutional origin for the loss of vision. Dr. Edes said that the patient had some vision, and could for instance recognize the figure of a bird on a screen across the room. The pupils were widely dilated and were apparently but little sensitive to light. The ophthalmoscope showed nothing. In her history was mentioned swelling of the feet and ankles several weeks ago.

The urine was examined and found to contain a small amount of albumen and casts, composed partly of hyaline material with epithelium. Others of broken-down epithelium and some fragments of almost waxy appearance.

Loss of vision sometimes occurs in cases of Bright's disease unconnected with the well-known characteristic changes in the retina. Is it possible in this case that there is a causal relation between the albuminuria and the loss of vision, or is the coincidence accidental?

Dr. Williams referred to the extreme difficulty of detection of simulated amaurosis in both eyes, as the usual tests by which pretended blindness in one eye can be unmasked are here unavailing. Where only one eye is falsely asserted to be blind the claim is disproved by the use of a prism or a colored glass held before the seeing eye by which the patient is made to see two objects instead of one, which would be the case if he were blind of one eye. It is also instantly disproved if he is able to read when a pencil is held, vertically to the printed lines, a short distance from a book. He can only read if he has vision with both eyes.

Cases of feigned or hysterical photophobia are much more frequent than those of pretended amaurosis, the patients sometimes secluding themselves from all light for months and even for years, when there is no organic disease of the eyes, and where recovery within

[1] See page 577 of this number of the Journal.

a brief period is obtained by suitable tonic and moral treatment and encouragement.

DR. C. H. WILLIAMS spoke of the subcutaneous use of strychnia in the treatment of hysterical amaurosis. He had used it at the infirmary, but had not been able to satisfy himself of its value. The chance of the duration of this symptom being self limited, is such that it is hard to feel sure that relief is due to the drug used.

FIBROID AND OVARIAN TUMORS REMOVED BY ABDOMINAL SECTION.

DR. JOHN HOMANS showed five tumors from four patients, two of them fibroid and three ovarian. The first was a solid fibroid, weighing seven and a half pounds, from a girl twenty-one years old. Severe pain, hæmorrhage, the rapid growth of the tumor, and the age of the patient, with the knowledge that such cases had recovered in a certain number of instances, had decided him to operate. There was a good pedicle, which was clamped in Kœberle's serre-nœud, and held above the pubes by a transfixing pin. The tension, however, was great enough to bend the pin. The patient did well for a few days, then the clamp came off, and the pedicle retracted, leaving a cavity, with black walls, leading towards the pelvis. Her strength failed, and she died at the end of ten days, probably of septicæmia. The stomach was found at the autopsy to be enormously distended, and nearly filled the abdominal cavity; it contained much gas and six pounds of black fluid similar to that vomited during life. The nutritive enemata had all been absorbed.

In his opinion cases like this, with twenty years of menstrual life before them, are the cases for operation rather than immense tumors in exhausted women.

The second case was a fibroid from a woman of thirty-six, in whom the same reasoning had led him to operate, although neither the pain nor the hæmorrhage were so severe. The omentum proved to be adherent in the pubic region, and it was tied in two places and divided between the ligatures. The pedicle was the uterus, which was compressed in a clamp together with the left Fallopian tube and left ovary. He proceeded, as in ovariotomy, to tie, burn, and drop back the stump. Previous to operating there had been a trace of albumen in the urine, and it has since increased. The pulse has become very feeble and rapid, 140–160. To-night the temperature is rising somewhat, and the result is doubtful.[1]

The third case was ovarian, and consisted of two tumors, papillomatous, from a patient who is now getting well. There had been obscure pelvic trouble, with nothing to be seen externally, but one could feel masses in the pelvis, one of which at least appeared to be distinct from the uterus. Operation showed a papillomatous tumor of each ovary rather larger than the first. These tumors were of the variety more properly called multicystic than multilocular, a kind particularly hard to remove, as they do not pull out easily, and have very short pedicles. Papilloma in a cyst is almost like cancer. In fact, in the speaker's opinion all ovarian tumors, structurally, are much like cancer. He has removed them, and in one or two instances has seen the patient die of cancer afterward.

The fifth tumor was ovarian, connected with a fibroid uterus, and accompanied by much pain. The operation was attended by much hæmorrhage from adhesions in the neighborhood of the cæcum and right broad ligament.

One who does much abdominal surgery is reluctant to remove a fibroid tumor by laparotomy. His own experience has not been very encouraging, his mortality having been about twenty-five per cent. The speaker mentioned another case in which he had removed a fibroid tumor by laparotomy, clamping the uterus with Kœberle's serre-nœud. After the serre-nœud had come off the tumor began to be extended and to *grow* (!) until at last a mass four pounds in weight lay on the abdomen above the abdominal wound. This was removed by ligature and the scissors. The patient recovered.

[1] Since this report the symptoms have become more favorable, and, December 15th, the patient is convalescent.

ACID ROPY URINE.

DR. EDES showed a specimen of urine containing a large amount of mucin. It poured from one vessel to another like white of egg. It was not the well-known urine of cystitis, that is, containing pus altered by ammoniacal fermentation, but was acid in reaction, and gave the tests of mucin. The patient was hemiplegic and had no bladder symptoms.

NEW YORK ACADEMY OF MEDICINE.

NOMINATION OF OFFICERS.

AT a stated meeting of the Academy held December 4th, the nomination of officers took place, and among them were the following: For President, Drs. T. Gaillard Thomas, Wm. T. Lusk, A. Jacobi, C. R. Agnew, and S. T. Hubbard; for Vice-President, Drs. T. A. Emmet and C. C. Lee.

The paper of the evening was by DR. JOSEPH E. WINTERS, on

IS THE OPERATION OF TRACHEOTOMY IN DIPHTHERITIC CROUP DANGEROUS? WHEN SHOULD THE OPERATION BE PERFORMED?

Dr. Winters had invited a large number of medical students from the University to hear his paper, and as they came early and almost completely filled the hall, many Fellows of the Academy who arrived a little later were unable to obtain seats. He commenced by saying that he had prepared the paper because he felt it was not right that the sentiment that this was the most dangerous of all operations in surgery, which had been expressed by the author of a paper read before the Obstetric Section in March last (Dr. Ripley), should go forth as the dictum of the New York Academy of Medicine.

The operation not dangerous. He then criticised the opinions of Mr. Timothy Holmes and Prof. S. D. Gross in regard to the risk of the operation, and in speaking of the danger from hæmorrhage (which he thought had been greatly exaggerated) he expressed the opinion that the precaution advocated by Dr. Gross when the isthmus of the thyroid gland had to be divided, of first applying ligatures about the portion on either side, was a mistake as unnecessarily complicating the procedure. He next quoted from a large number of authorities, both ancient and modern, to show that the operation was not dangerous.

How does diphtheritic croup tend to produce death when left to itself? In a large proportion of cases, he said, by the prevention of access of air to the lungs,

and when the operation of tracheotomy failed to save life, it was either because it had been postponed until too late, or because the after-treatment had not been attended to with sufficient care. Tracheotomy accomplished perfectly its primary object of preventing death by asphyxia. In this connection he went on to show from various writers that diphtheria of the wound was rare, and that the disease seldom extended down the trachea after the operation. He had expected to find frequent reference to this matter among the German authorities, but this was not the case. As a rule, they believed that diphtheria of the wound could almost always be avoided by the use of carbolic washes, and that if the complication should occur it could easily be combated by the same means.

When to perform tracheotomy. Having referred to the folly of trusting to spontaneous expectoration of the membranes, such as had been known to occur in a very few exceptional instances, he gave some statistics of the course of the disease with and without operation, and said that the figures adduced were conclusive as to the necessity for surgical interference. Nothing was to be gained by delay in resorting to this, while, on the other hand, delay was extremely apt to seriously compromise the successful termination of the case. Then enumerating the symptoms present in the advanced stage of croup, he condemned in the strongest terms the practice advised by many of waiting till death was imminent before operating, and said that it was just as rational in strangulated hernia to wait until the occurrence of gangrene. Autopsies in cases of diphtheritic croup showed that where no operation had been performed or where it had been deferred until the third stage, death following soon after, the lungs and bronchi were in a state of marked venous congestion, and sometimes pneumonic consolidation, while no such condition was found in cases where tracheotomy was resorted to early. This condition was the effect, then, not of the operation, but of continued obstruction of the larynx. Pure warm air was the best remedy for diphtheritic croup, and in the majority of fatal cases of the disease death was due to want of oxygen and the exhaustion of the nervous system. The physician should not, therefore, wait until the results of protracted obstruction to respiration were evident, but, by operating early, restore to the patient the benefit of the life-giving properties of oxygen, nature's sovereign remedy.

Prognosis. Among the conditions unfavorable to the success of the operation were mentioned early age, previous ill health, the prevalence of scarlatina or measles in the neighborhood when the child had not already had them, and the presence of nasal diphtheria or enlarged lymphatics. No age, however, contra-indicated tracheotomy, as it had been successfully performed in infants of six and nine weeks. If after the operation the breathing did not become free or there was difficulty in swallowing it was to be regarded as a bad sign. Dr. Winters having again dwelt upon the dangers of delay, and mentioned a number of instances illustrating this, said that every practitioner of medicine should be ready to perform tracheotomy at any moment when the emergency for it might arise, and said that in communities where diphtheria prevailed its performance ought to be as common as venesection used to be in former times. He then gave a summary of the history of the operation, which he said had several times fallen completely into disuse, and announced a large number of *conclusions*, among which were the following: —

The operation of itself, performed with proper care, involved but little danger. Want of care in operating might result in serious accidents.

Tracheotomy prevented asphyxia, which was the most common cause of death.

It also prevented the extension of the original disease.

The operation should be performed early.

It was never too late to operate.

The operation never added one element of danger to the case.

Performed with care it would save two fifths of the patients.

No patient who died after the operation would have lived if it had not been performed.

The paper being open for discussion, DR. J. W. WRIGHT said that while the circumstances in which tracheotomy was most frequently called for in New York, namely, in young children living in tenement-houses, were undoubtedly very discouraging the difficulties attending such cases were not so great but that they might be overcome by the aid of coolness and careful attention. If the attempt was made to control all hæmorrhage before opening the trachea, as advised by some, it would usually be found a very formidable undertaking. If the symptoms were not especially urgent it was well to stop the hæmorrhage to some extent, but if they were he thought it was best to ignore venous hæmorrhage altogether, and to go right on into the trachea as quickly as possible. As the writer of the paper had stated, the flow of blood would cease as soon as the knife entered the latter, or, at all events, as soon as the tube was inserted. With regard to blood getting into the trachea, he could see no special objection to this. Indeed, it had sometimes seemed to him to be of decided advantage, since it was just what was needed to excite violent expulsive efforts which would clear the trachea not only of blood, but of the mucus which was stopping it up. In young children the operation, he thought, was always facilitated by placing an ordinary wine bottle, wrapped in a towel, underneath the back of the neck. When the isthmus of the thyroid gland was in the way he believed that it should be cut through at once without any attempt to control the hæmorrhage whatever in cases of urgency, but where there was no necessity for such haste he thought it was advisable to put ligatures around the two portions and divide the isthmus between them in the manner referred to in the paper. To be of very much use, he agreed with Dr. Winters, tracheotomy ought to be resorted to early. In any case where there was a certain diagnosis of diphtheritic croup, with serious symptoms in connection with respiration which medicinal measures failed to relieve, it was the physician's duty to perform it. The operation was not in any sense a cause of death.

DR. A. JACOBI said that in the paper but one danger had been referred to, namely, hæmorrhage, and that while a vast number of European authors had been quoted in support of the writer's position that tracheotomy was not dangerous, about the only American mentioned had been Professor Gross, who, indeed, was cited merely for the purpose of showing certain apparent inconsistencies in his works. There were many others in this country who had made valuable contributions to this subject who might also have been quoted

with advantage, and among these he mentioned particularly Dr. Gay, of Boston, and Drs. Hadden and Ripley, of New York. As to the dangers of tracheotomy, the principal one was bungling operations. If properly performed it was not usually a bloody operation; but hæmorrhage occurred very frequently when it was done by a careless operator or one who was in haste to get through with it. The main point of success was to operate with deliberation. The trachea should not be cut into until it could be plainly seen, and if the isthmus was encountered, in getting access to it, it was advisable to peel a part of it off, according to the practice of Dr. Voss. It was certainly a great mistake, as a rule, to cut through the isthmus, and this procedure was only justifiable when the case was extremely urgent. When there was much hæmorrhage it was often very difficult to find the trachea at all, and he could not agree with Dr. Wright that it was a matter of indifference whether blood got into the latter or not. All of it would not be coughed off, and some of it would be almost certain to go down into the smaller bronchi and air-cells, and perhaps give rise to broncho-pneumonia, which, from this cause, was very frequent after tracheotomy. Another danger arose from operating without anæsthetics, on account of the violent struggles of the child, and chloroform was preferable to ether, because the inhalation of the latter required a longer time, and also excited more struggling. He did not agree with Drs. Winters and Wright that it was necessary to have a positive diagnosis of diphtheritic croup before operating. The principle on which he acted was, whenever there was serious laryngeal stenosis, whether membranes were present or not, to perform tracheotomy. There were some cases of simple laryngitis in which the obstruction was sufficient to cause death by asphyxia. Pneumonia was not a contra-indication, and in cases in which there was sepsis from diphtheria, there was all the more necessity for operating, since by the opening of the trachea the fetid inhalations from the mouth and nose were cut off. In ordinary cases of membranous croup, however, it was usually safe to defer tracheotomy until a fair trial of bichloride of mercury, in addition to other remedies, had been tried. As to the efficacy of this drug, he still entertained the same favorable opinion that he had expressed in his paper before the Obstetric Section of the Academy in May last, and he was happy to say that his percentage of recoveries without tracheotomy had of late been much larger than ever before.

As to the cause of death after operation, many died of diphtheria and many of croup. Among the special causes were the following: (1.) Diphtheritic sepsis. (2.) Complications of diphtheria, such as paralysis, nephritis, adenitis, fibrinous pneumonia, etc. (3.) Broncho-pneumonia or œdema of the lungs (the most frequent of all); and (4.) The descending diphtheritic process. Many cases appeared to do well for twenty-four hours after the operation, when there would be a change for the worse, and death would ensue in about sixty hours from suffocation consequent upon the extension of the membranes down to the ramifications of the bronchi.

DR. J. LEWIS SMITH, having mentioned that all authorities were agreed that the older the child was, other things being equal, the better the chance of success, said that these two combinations of circumstances rendered tracheotomy especially dangerous, namely, when in consequence of the patient's being nearly moribund the physician was induced to operate hastily and without paying sufficient attention to the control of hæmorrhage, and, secondly, when proper precautionary measures were neglected by a novice. He fully agreed with Dr. Jacobi that the degree of stenosis should be the guide for operation, whatever the diagnosis might be, and referred to two cases of acute catarrhal laryngitis, without pseudo-membrane, which had proved fatal at the New York Foundling Asylum. The cases of diphtheritic croup could be divided into two classes. In the first, the inflammation of the larynx commenced at a very early period, with rapid extension of the exudation, and the early performance of tracheotomy was called for. In the second the larynx was attacked later, and the pseudo-membrane did not spread so rapidly; so that there was more time for the trial of other remedial measures before resorting to the operation. In the first rank of these he placed alkaline inhalations, and he said that in cases of diphtheria he had again and again prevented the serious invasion of the larynx by the pseudo-membrane by promptly resorting to these the instant that it was discovered that laryngeal trouble was threatened. In this connection he spoke of the great importance of watching very closely the voice of the patient from day to day in every case of diphtheria. Finally, he referred to catheterization of the larynx as having been employed with some success at the Foundling Hospital as a substitute for tracheotomy in cases where the membrane did not extend very far down.

DR. JOHN H. RIPLEY remarked that the position which had been taken by the author of the paper was in direct opposition in almost every particular to that which he himself occupied. At the meeting of the Obstetric Section of the Academy to which Dr. Winters had referred he did not say that tracheotomy was the most dangerous of all surgical operations, but that tracheotomy for croup in young children was one of the most dangerous operations in surgery. The question was not whether tracheotomy in general was difficult and dangerous, but whether in young children suffering from croup it was difficult and dangerous. Under such circumstances he believed that it was, and the danger consisted principally in the critical condition of the patient and the necessity for performing the operation within a certain time. Dr. Winters had alluded to but one possible source of danger, namely, hæmorrhage, but he did not consider that this was the most common cause of death. The child operated on, it must be remembered, was suffering from a diseased system, a stenosed larynx, and often an infiltrated neck. Sometimes it was so paralyzed with the poison of diphtheria that it was liable to die at any moment from syncope, and if the stenosis was very great it might die of apnœa, while in order to get at the trachea it was, perhaps, necessary to go down for two inches, which involved both time and great care. He was content to go with the small minority, which included such names as those of Gross and Holmes and Billroth, in the opinion that the operation was a dangerous one, and he believed that this was shared by a large number of New York surgeons. He had himself peformed tracheotomy at least one hundred and ten times, and he had also seen it done by others at least fifty times. He had met with almost every complication that could exist, and had seen all kinds of men take a trial at the operation. He believed that he had been the means of saving some lives where it was attempted by inexpe-

rienced operators, but he had also seen a number of cases die on the table. Some of these had been in the hands of men of marked surgical ability, and he had once witnessed the puncture of the internal jugular vein by one of the best surgeons that the city of New York ever had. It had been stated that it was a simple matter to plunge a knife into the trachea, but he had seen two or three such attempted plunges which were rather disastrous in their effects. One of them was into the spinal column, another into the œsophagus, and another entered the side of the trachea and passed through it. The comparatively greater success of those who operated early was due, not to the relief afforded by the tracheotomy, but because early operations were, as a rule, unnecessary ones. Many of the cases of croup recovered without operation, and, in fact, with very little treatment of any kind, and it was also often difficult to make a positive diagnosis between true croup and catarrhal laryngitis, which almost invariably recovered without operation. These facts accounted for the number of specifics for croup of which we heard so much. He did not agree with Dr. Winters that the obstruction to respiration produced pulmonary congestion, often with the final result of pneumonia. On the contrary, his experience with the disease during life and the autopsies which he had seen led him to believe that there was anæmia of the lungs with hyper-dilatation of the air vesicles (resulting from the attempt to fill up the threatened vacuum), and occasional areas of collapsed lung tissue. The most common cause of death after tracheotomy was bronchial croup from extension of the pseudo-membrane, which would produce a fatal result by suffocation long before the air vesicles were reached by the membrane. Other prominent causes were nephritis with uræmic poisoning, and respiratory and cardiac paralysis. When it was possible he believed that an inexperienced man should always call in an experienced one to assist him in operating.

DR. WINTERS made some extended remarks in reply to the criticisms of the various speakers on his paper. In the course of them he said that he had not by any means attempted to make the latter a complete treatise on the subject, though he had quoted from several other American authors beside Dr. Gross. Among these were Dr. Pooley, professor of surgery in Starling Medical College, and Dr. Mastin, of Mobile, Alabama. Properly performed the operation was almost bloodless, and he advised that the scalpel should be laid aside altogether as soon as the incision through the skin was made, and that a careful dissection of the tissues should follow until the trachea was reached. Dr. Ripley, it seemed to him, had confounded the dangers of the operation with those of the disease, and he still claimed that the operation itself, performed with care, was not dangerous. When death took place on the table he believed it was always due either to carelessness on the part of the operator or to a too late performance of the operation.

— For a number of years it has been the custom in Dublin to have an annual foot-ball game the day before Hospital Sunday for the benefit of the Hospital Sunday fund. This year the game netted some £54 to the good cause. In this country the advantages accruing to hospitals from foot-ball games are chiefly clinical.

REGULAR MEETING OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

W. W. JAGGARD, M. D., SECRETARY.

No. 536 WASHINGTON BOULEVARD. FRIDAY, NOVEMBER 21, 1884. The President, H. P. MERRIMAN, M. D., in the chair.

DR. EDWARD WARREN SAWYER opened the discussion on the

TREATMENT OF ABORTION.

He called attention to the frequency of the interruption of pregnancy before fœtal viability. Madame La Chapelle says abortions are as frequent as labors at full term. The experience of the profession oppose the generalization. In his own practice, extending through a period of ten years, he had only seen from forty to forty-five abortions. As illustrative of the wonderful conservatism and care of nature in these cases, he had never met with a fatal case in his own practice, and had seen but one fatal case in the practices of his medical brothers. This fatal case was complicated by cellulitis and pneumonia.

As to causation, abortions are divisible into two classes: (1) those occasioned by natural processes; (2) those induced by accidental or intentional violence. The former class usually terminates favorably. The latter class is the *bête noir* of the physician. It is a matter of medico-legal interest, that in abortions, resulting from natural processes, that is, fatty degeneration of the decidua, the ovum and decidua are expelled, as a rule, in an intact condition, while in criminal abortion the product of conception is expelled in a more or less mutilated state. When the ovum has been mutilated, the embryo is extruded from the cavity of the uterus before the fœtal envelopes and decidua, and is frequently lost. Moreover, the embryo, so late as the fourth week, may be completely absorbed. The absence of the fœtus cannot be regarded in the differential diagnosis of abortion, molar pregnancy, or intra-uterine fibroids. Two distinct courses, as to the treatment of abortion, have been adopted by the profession. The radical method of immediate evacuation of the contents of the uterine cavity and the plan of patient waiting have been, in turn, defended and opposed. Dr. Sawyer has followed the expectant mode of treatment. He waits and allows nature to effect the expulsion of the product of conception. He has waited as long as one week. He has been encouraged in this line of treatment by the fact that he has never seen any untoward consequence in the cases managed in this manner. He enjoins absolute rest in the horizontal position, and the exhibition of quinine and alcohol, as required. Local treatment, apart from the vaginal tampon, is limited to vaginal injections of chlorinated soda. He has never noticed hæmorrhage or inflammatory action as the result of this course of action. He objects to the removal of the whole or part of the product of conception from the uterine cavity because (1) it is a painful procedure involving the use of ether, and predisposing to hæmorrhage from uterine inertia; (2) an assistant is necessary; (3) the amount of unavoidable injury to the genital tract is considerable.

In conclusion Dr. Sawyer exhibited an unusual specimen. The specimen consisted of an intact amniotic sac, inclosing a five months' fœtus, with velamentous insertion of the umbilical cord. Separation had

occurred between amnion and chorion. The chorion, placenta, and decidua remaining within the cavity of the uterus. He had been called to see the woman, — five months advanced in pregnancy, — who was suffering from severe uterine contractions and hæmorrhage. After a brief interval, the specimen presented to the Society was expelled. Noting the intact condition of the amnion, Dr. Sawyer paid no further attention to the mass, told the woman to fear no more trouble, and went home. Next morning, upon visiting his patient, he was informed that one hour after his departure, under renewed hæmorrhage and uterine contractions, another mass was expelled. This second mass proved to be the chorion, placenta, and decidua. A medical friend, Dr. Albert G. Paine, had observed a strictly similar case.

DR. W. W. JAGGARD said separation between the amnion and chorion was relatively infrequent during the sixth and seventh months, but was not uncommon prior to that period. In regard to the treatment of inevitable abortion when the ovum was expelled in an intact or mutilated condition, and decidua or portions of the fœtal membranes remained within the uterine cavity, it was necessary to regard the natural history of the condition. This condition had been appropriately termed by Breslau "incomplete abortion." The terminations are briefly: —

(*a.*) Spontaneous elimination of that portion of the product of conception remaining within the uterine cavity, as the result of retrograde metamorphoses, accompanied by intermittent hæmorrhages and uterine contractions.

(*b.*) Sometimes — though seldom — hæmorrhage ceases entirely, and the patient is apparently well. This interval varies from a few days or weeks to months. Suddenly hæmorrhage and pain occur, and the intra-uterine mass is expelled. This retention, with a long interval of rest, is noticed when the placental or decidual attachments are intact. That this act constitutes the termination of the labor, so to speak, is apparent from the facts that the milk secretion is usually established at this time, and the reductive metamorphosis is instituted.

(*c.*) More frequently the retained decidua or placenta undergoes suppurative or ichorous changes, as the result of which systemic infection was liable to occur despite the thrombosis of the uterine sinuses, and the proliferative changes in the uterine mucosa.

(*d.*) The retained placenta or decidua may become converted into placental or fibrinous polyps, conditions which always require operative interference.

All four terminations present sources of danger to the mother. From this glance at the natural history of the condition — for the elucidation of which Spiegelberg deserves especial recognition — the weight of evidence lies in favor of the so-called radical treatment, — empty the cavity of the uterus at the earliest possible period. The plan recommended by Dr. Mundé in the February number of the *American Journal of Obstetrics*, 1883, was worthy of high commendation. One finger within the uterus, one hand on the fundus, was preferable to instruments when equally effective. The subsequent treatment was one of extreme importance.

Whenever the cavity of the uterus is invaded by the finger or any instrument it must be irrigated by some antiseptic solution. Two per cent. solutions of carbolic acid or one to two thousand of the bichloride of mercury are efficient in the destruction of conditions favoring decomposition and sepsis. After irrigation of the cavity of the uterus it was a good plan to introduce within the uterus a *bacillus* of powdered iodoform weighing at least six grammes. Symptoms of iodoform intoxication rarely, if ever, followed the exhibition of this quantity. Ten grammes are usually required to produce toxæmia.

DR. PHILIP ADOLPHUS said that abortions were more frequent among multipara than primipara. In the way of prophylactic treatment, he thought women ought to sleep by themselves during the time corresponding to their menstrual periods. Among the upper classes in Europe it is customary for man and wife to sleep in separate beds. He thought it an excellent plan. When abortion was inevitable, the treatment must be symptomatic. To arrest hæmorrhage plug the cervix, not the vagina. Use tupelo or laminaria tents, not those composed of sponge, for various reasons. Use thin tents. When fetor is noticed, empty the uterine cavity. For this purpose either finger or curette might be employed.

DR. D. T. NELSON said the dangers from abortion were (1) hæmorrhage, (2) sepsis, (3) inflammation. Rest and opium were not sufficient. He could not rest until the uterine cavity was empty. He had no sympathy with the expectant plan of treatment. The manner of emptying the uterine cavity was of importance. If the cervix was dilated, or dilatable, the cavity should at once be cleaned out with the finger. If the cervix was not dilated, nor dilatable, the cervix ought to be plugged in the manner indicated by Dr. Adolphus, with tupelo or laminaria tents. If the cervix was partially dilated or dilatable, and the uterus fixed, give an anæsthetic, relax the spasm, and proceed as in the first case. He had no fear of ether predisposing to uterine inertia. In dissecting off the placenta it was advisable to glove the finger tips with the amnion. In the early months, when the ovum was attached near the cornua, it was necessary to bear in mind the possibility of irregular contraction, and the inclusion within either cornu of a bit of the placenta. The cornua must be thoroughly explored. When he employed intra-uterine irrigation — by no means an invariable method of treatment — he used a one half per cent. solution of carbolic acid, or a dilute solution of ordinary table salt. The solution must be hot, 110° F. to 120° F. Hot water, in the absence of carbolic acid or salt, was effective as a cleansing agent, and as inducing uterine contractions. Dr. Nelson had had no experience whatsoever with iodoform, but regarded it as superfluous in all cases.

DR. WM. E. CLARKE was more afraid of hæmorrhage and sepsis than of inflicting injury upon the genital tract. He always emptied the uterine cavity at the earliest possible period.

DR. T. D. FITCH did not consider Dr. Sawyer's specimen a rare pathological occurrence. He had seen the same separate at the same time frequently. He agreed with Dr. Nelson in treatment. Still when the cervix was not dilated he was disposed to pursue the expectant line of treatment. At the time of the occurrence of abortion the uterus was in a physiological condition. Operative interference at a later period was attended by increased risk, as the uterus was then in a pathological state. Usually he found the placenta and membranes detached within the lower segment of the uterus. As he had a large hand with short fingers

he employed the placental forceps of Hodge, Dewees, Elliott, or Koler. Once, in the country, he used an ordinary pail bail with the rough edges filed off. He was not in favor of intra-uterine injections. The vaginal douche was sufficient.

DR. WM. H. BYFORD said that abortions were more frequent in large cities than in the country. Madame La Chapelle's estimate of the frequency of abortion was not exaggerated when applied to large communities. In the country, he thought, one abortion to three labors at term represented a fair average. Abortion was never a physiological process, although abortions from diseases of the ovum were attended with less danger than those resulting from morbid uterine changes. In disease of the ovum the circulation was impaired, the embryo perished, and expulsion followed with the inimical degree of hæmorrhage, pain, and sepsis. When the cause of abortion was external violence or decidual endometritis danger in each of these three directions was increased. The specimen exhibited by Dr. Sawyer was of rare occurrence at so late a period; it was comparatively common during the early months.

As regards the prophylactic treatment he had observed two clinical facts in connection with the habit of abortion. When uterine contractions were the prominent symptom, abortion could be arrested in many cases by absolute rest and opium. When hæmorrhage was severe all attempts at arresting the process were usually futile. This was especially true during the first three months. At a later period, even when hæmorrhage was severe, abortion might be arrested.

In regard to the treatment of inevitable abortion, he had never seen the time when champions of the expectant and radical courses of action did not exist. The treatment must be governed by the consideration of the individual case. In any case the patient must be carefully watched. He had never seen a case of abortion terminating by immediately fatal hæmorrhage. The acute anæmias, however, might induce a condition which would render the woman more susceptible to sepsis or any intercurrent disease. He feared sepsis and metro-peritonitis more than hæmorrhage. He was conservative as to operative interference. Let Nature do what she can; only in case of failure on her part, interfere. The finger was preferable to any instrument. Then it was not necessary to insist upon the removal of placenta or membranes with mathematical accuracy. If the placenta was grasped by an irregularly contracted uterus, cut off the free portion, allow the rest to lie in the uterine cavity. If two thirds of the placenta were removed, and the uterus well contracted, the case was to be considered in a safe condition. In event of sepsis, remove all the intra-uterine mass.

DR. JOHN BARTLETT stated that, in his practice, abortions were as frequent as labors at term. The product of conception was usually expelled in its integrity. When abortion was inevitable, two conditions were required, before operative interference was justifiable: (1.) Dilatation of the canal of the cervix to the extent necessary for the passage of two fingers. (2.) The separation between decidua and the uterine mucosa must be more or less complete. Until these conditions were present, the vagina ought to be tamponed. For a tampon, he was in the habit of employing bits of cotton tied on a string in the manner of the kite-tail.

He had seen two cases in which the placenta had remained for a long period of time within the uterine cavity without causing symptoms. The retention in one case lasted through a period of three months; in the other case the period was four months. As to the length of time the tampon could be left *in situ* he had adopted Dr. De Laskie Miller's rule of allowing it to remain twenty-four hours. He had frequently tamponed through three days. The colpeurynter of Braun was a useful tampon. No tampon was effective when the hæmorrhage was not of a passive character, and uterine contractions were severe.

It was necessary to diagnosticate between placenta prævia and abortion. Placenta prævia implied simply an *error loci* of the ovum. It was included between the ring of Bandl and the external os. Dr. Bartlett had never seen a case of abortion terminate fatally from hæmorrhage.

DR. A. H. FOSTER had seen one case of retained placenta, in which the retained mass gave origin to no serious symptoms for a period of four months. The importance of subsequent treatment of the puerperium was urged.

DR. E. C. DUDLEY referred to the dangers of cervical laceration and subinvolution in consequence of abortion. The best method of applying the tampon was by means of Sims's speculum.

DR. C. W. EARLE occupied the middle ground between the expectant and the radical methods of treatment. He did not agree with Dr. Mundé.

DR. H. P. MERRIMAN, after indorsing Dr. Byford's remarks on the ætiology of the condition, said that he did not like to use ergot in these cases, as it caused irregular contractions of the internal os, imprisoning the placenta without favoring its expulsion. He produced uterine contractions by dilating the os, and then followed the expectant plan of treatment.

DR. E. W. SAWYER, in closing the discussion, said that he had observed abortion in the lower animals, and concluded nature required little interference. He then briefly sketched the line of expectant treatment, which he was in the habit of recommending.

CASTS OF THE PREGNANT AND NON-PREGNANT UTERUS.

DR. JOHN BARTLETT then exhibited some casts of the pregnant and non-pregnant uterus for the purpose of class illustration. The idea is an extremely ingenious one, and will receive attention at an early period.

The Society adjourned to meet December 19th at the residence of the President, Dr. H. P. Merriman, No. 1350 Michigan Avenue. Subject for next discussion, Extra-Uterine Pregnancy, to be introduced by Dr. William H. Byford by a paper On a Case of Interstitial Pregnancy.

—"Hot-eye" is the name given Mr. Jonathan Hutchinson in the "Bowman Lecture" for the current year to an affection occurring as a symptom in incomplete or "quiet" gout. One eye is usually affected, sometimes both. The conjunctiva is red and congested. The eye-ball pricks and feels hot, or as if sand were in it. The attack comes on soon after an error of diet, and lasts from a few hours to a day or two. It not infrequently is the precursor of iritis.

Medical and Surgical Journal.

THURSDAY, DECEMBER 18, 1884.

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A PROPOSAL FOR A NEW NATIONAL HEALTH ORGANIZATION.

THE meeting of the Conference of State Boards of Health with the addition of the health authorities of a number of the more important cities of the Union, as well as of the Dominion of Canada, which was in session at Washington during the 10th and 11th of December, appears to have accomplished some important work, a special report of which, already in hand, we are obliged to postpone to next week. Three committees considered respectively questions of national, State, and municipal health organization; reports were made — though not yet made public — which will at least represent the views of those who are at present charged with official sanitary work.

The principal subject under consideration by the Committee on Federal Legislation — a reorganization of the National Board of Health — will probably attract general notice, both from the importance of the subject and from the fact that this body, substantially the same as the American Public Health Association, the founder and devoted adherent of the present National Board, has at last become reluctantly convinced that the present Board has lost its capacity for usefulness, without any abatement of respect or sincere good will on the part of the medical profession for its members individually.

The Convention represented twenty-seven States, and the Committee on Federal Legislation six States: Dr. Walcott, of Massachusetts, Chairman; Hon. Erastus Brooks, of New York, Drs. Smith, of New York, McCormack, of Kentucky, Rauch, of Illinois, Baker, of Michigan, and Herrick, of Louisiana.

Toward the close of the meeting of the Conference a project for a bill amending the Act of 1879 establishing the present Board was reported by the committee, this was recommitted to an enlarged committee with instructions to present a draft of an act of the same general tenor, and to submit the same to Congress. The Committee, with the addition of Drs. Chancellor, of Maryland, Elder, of Indiana, Hearne, of Mississippi, Thornton, of Tennessee, Horlbeck, of South Carolina, completed their bill and presented it to the Committee on Public Health of the House on Friday.

This bill, which is understood to have received the important assistance of a revision by the Secretary of State, is substantially the following: —

First. A Board composed of members representing State Boards of Health, appointed by the President, and confirmed by the Senate; to serve without pay except when actually employed, and then to receive a per diem allowance of $10 and necessary expenses; to meet in Washington once a year; to be convened at other times, if required, at the call of the Chairman or of the President; the officers to be a chairman and secretary, the latter to be the executive officer of and *ex officio* a member of the Board, and the only officer to receive a salary; the Board to have authority to assign any of its duties to the executive committee of seven, including the Chairman, and representing various sections of the country.

Second. The duties of the Board to be general and special, embracing investigations into epidemic and contagious diseases and causes of disease, and measures of aid in coöperation with State and local boards when necessary to protect the public health.

Third. The making of rules and regulations to control the sanitary condition of ships sailing from foreign ports to the United States.

Fourth. Framing rules and regulations for the quarantine service of the United States, and assisting in the enforcement of local regulations when needed.

Fifth. Authority to be conferred upon the President to issue proclamation of measures to be taken in cases of great emergency to be in force only until the Board or its Executive Committee can be convened. This section was added at the instance of the Secretary of State.

It is made the duty of the State Department to obtain information from consuls, or medical officers serving in offices of consuls, in regard to the sanitary condition of foreign ports, and the President is authorized, upon request of the Board, to appoint competent medical officers to serve abroad.

The bill further provides that officers may be detailed by the President from any regular service to assist the Board; that a bulletin shall be published giving all important information, and establishing a permanent office in Washington.

Upon careful examination the bill seems to have been framed with an evident intention to burden the Board with the least possible patronage, to impose upon existing departments as large a share of the executive work as could be done without injury, and to meddle as little as practicable with the ever-jealous Services at the capital. It has been intimated that this draft will not encounter the hostility of the Marine Hospital Service, inasmuch as provision is made by which the President may direct, as it seems proper that he should, what department or persons shall carry into effect the rules made by the Board.

The proposed legislation seems to us conservative and wise. If enacted it completes, in the same manner as does the National Government, the successive steps in the progress from the health organization of the smallest village in a State to the sanitary oversight of all the States and Territories of the Union. While the number of members may appear to some to be large, there seems no other way for securing a

truly representative body. As there is little probability, with a competent executive committee, of more than one annual meeting of the full Board, the general government will not be called upon to bear a serious burden of expense.

The urgency of some more direct representation of the sanitary needs of the country was shown by the action of the Secretary of the Treasury, who requested a conference with the Committee on Federal Legislation, and submitted to them his own draft of an amended Treasury order in relation to the vexed question of the importation of rags, with the assurance that the Committee's action would determine the course of the Department. The order upon this subject published in the daily press Saturday contains the recommendations of the Committee, whose influence is shown by the concluding provision allowing disinfection at foreign ports under proper supervision, a concession hitherto opposed by Mr. McCulloch.

Such a Board as that suggested by the Conference would go far to relieve the country of the reproach of a national organization which has so far lost public confidence as to fail of an appropriation sufficient for mere existence even, and which has not been strong enough to oppose the one-man power sheltered behind the Treasury.

THE ANNUAL REPORT OF THE SURGEON-GENERAL.

AMONG the great number of annual reports of the different government officials, that of the Surgeon-General of the Army is by no means the least interesting. Though dealing in great measure with statistical tables, whose chief value can only be reached by comparison with similar tables for former years, it still contains many items well worth attention.

The first subject noted concerns the distribution of trusses, in which the legal regulations cause apparent hardship, if not injustice; for instance, a soldier ruptured during the war with Mexico, although he may be receiving a pension on account of hernia, is not entitled to receive a truss. Under the law, as it now stands, the following classes of persons are not entitled to trusses: Those who were ruptured at any time while serving as commissioned officers; those who were ruptured prior to April 19, 1861, whether commissioned or enlisted, although the disability may have been incurred in the line of duty and during the prevalence of war; and those who have been ruptured since August 20, 1866, whether commissioned or enlisted, unless the disability may have been incurred in the line of duty during war.

It is recommended that existing law on this subject be so amended as to allow a truss to every person who has been, or may hereafter be, ruptured in the line of duty while serving in the army or navy.

In the report on the health of the army it has always been the custom to institute a comparison between the white and colored troops. This year, for the first time since their organization, the death-rate for the colored troops has fallen lower than that for white troops. The death-rate among the colored troops from respiratory diseases is more than four times as great as that of the white troops: the deaths being wholly from pneumonia. The colored troops present a higher rate than white troops for syphilitic and other venereal diseases. On the other hand, their comparative freedom from intemperance continues to be of interest.

No casualties whatever from actual warfare are reported, the year having been the first for many years not marked by losses to United States troops from Indian hostilities. Life in the army has not been without its perils, however. Increased interest in rifle practice has been followed by a number of accidents; the returns of the War Office showing for the year nine cases of shot wounds received at the firing range, with three deaths, and in addition forty-seven injuries from explosions of rifle-cartridges occurred while soldiers were preparing ammunition to be used in target practice.

Typhoid fever has been quite prevalent among the white troops, amounting to .6 per cent. of all cases of disease and injuries returned, or eleven per thousand of mean strength, while the average annual occurrence for the past sixteen years has been but 3.58 cases per thousand. Sixty-five per cent. of all the cases have occurred in the cavalry, though this arm of the service numbered less than thirty-four per cent. of the combatant force. Most of these cases occurred in young recruits, and the evidence shows that the Recruiting Depot at Jefferson Barracks, near St. Louis, Mo., was the source of a very wide-spread dissemination of typhoid and typho-malarial fevers.

The literary and scientific work of the Surgeon-General's Office is, probably, the most interesting portion of the army work to our readers. The Index Catalogue receives the barest mention, but we are glad to repeat the information that the manuscript of Volume VI. is in an advanced state of preparation, and the first part of it is now going to press.

The Library has become a matter of national pride, and its growth is watched with interest by the profession in all parts of the country. The increase in the appropriation has made it possible to arrange to have every new medical work from every country sent promptly to the Library, as recommended in the last Annual Report, and henceforward it is hoped that those who consult this collection will find that it contains the latest information on any subject in which they may be interested. The number of those using the Library is, very naturally, steadily increasing.

The long illness and death of the lamented Surgeon Woodward has delayed the publication of the Third Medical Volume, the last of the series of the Medical and Surgical History of the War. The completion of this volume has been intrusted to Surgeon Charles Smart, and its publication may be expected in about a year.

It is a lamentable fact that each year it is necessary to repeat the statement that a fire-proof building is a necessity for the proper protection of the Museum and Library. A bill for such a building, reported favorably to the House of Representatives, was not reached

in the order of business at the last session, and is still pending. A similar bill has already passed the Senate. We cannot feel that the legislators of the country who have already done so much to preserve the medical results of the fearful conflict between the States, and have so nobly encouraged the work of the Army Medical Department, will willingly longer imperil the safety of these valuable collections.

DISPOSAL OF SEWAGE AT PROVIDENCE. A SEWAGE BESIEGED CITY.

THE practice of casting sewage into the nearest water-course has finally brought the city of Providence, as it so lately brought Boston, and will sooner or later bring others of our large or growing cities, to a realizing sense of its sins in this particular. Whether the inhabitants are sufficiently conscious of the necessities of the situation to pay the inevitable price of reform, now estimated at $3,500,000 in round numbers, remains to be seen.

The city authorities, two years ago, directed the city engineer to report plans of intercepting sewers, and of any other work necessary for collecting, conducting, and disposing of the sewage of the city in accordance with best approved methods at such a point and in such a manner as would be least injurious to the public health. A year later the engineer, Mr. S. M. Gray, and his assistant were directed to proceed to Europe to investigate the various plans in practical operation for the disposition and utilization of sewage.

As a result we have before us a very handsome and complete report lately issued. The bulk of the report contained in Appendix A is taken up with a good account of the most important sewerage systems and methods of sewage disposal. It contains much the same information which was available in Boston before its new system of intercepting sewers was undertaken, and which was published in a Supplement of the National Board of Health Bulletins, prepared by Mr. Rudolf Hering. The results at Boston, are however, not referred to, probably as being too near home.

The present sewer-connections at Providence are believed to take the sewage from about 36,500 inhabitants; the daily dry weather flow of sewage of the town is estimated at about 3,000,000 gallons. In addition about 4,823,000 gallons of filthy liquid wastes of manufactories are emptied daily, except Sundays, into the small tributaries of the Providence River, at or near the town. A population of 300,000 is provided for in the estimate of the proposed system of intercepting sewers. It is recommended that the sewage be carried to comparatively deep water at Field's Point, where Providence River debouches into Narragansett Bay; that it be treated there by chemicals in such a manner as to precipitate the matters in suspension and clarify the sewage; and that the clarified effluent be then emptied into the Bay. The plan now pursued at Boston, of emptying the sewage without treating it, is impracticable on account of the feebler tide and smaller volume of water. The plan of utilizing the sewage for irrigation was duly considered, but the engineer says he did not feel justified in recommending its adoption, for, from careful and extended surveys, he became convinced that the large amount of suitable land required for the purpose could not be obtained at any reasonable cost within reasonable distance of the city. The amount of land required for the disposal of sewage by irrigation being placed at about one acre to 100 inhabitants, some 3000 acres would be necessary.

Mr. Gray states the cost of chemicals and labor for treating sewage by precipitation at well-managed works in England at from .24 cents to .36 cents per annum per inhabitant connected with the sewers, and thinks it might cost twice as much in this country, but apparently is not very positive or exact as to this point.

On such a basis it is calculated that purification can be accomplished by precipitation at far less expense than by irrigation, even though the residual sludge should possess no commercial value, but that it would possess some value as a fertilizer he has no doubt.

The taxpayers of Providence, whatever may be true of the voters, will probably find it hard to bring themselves to pay the price for relief from their present troubles, but delay will steadily augment both.

MEDICAL NOTES.

— An important and for this State novel experiment in the disposal of criminals has just been inaugurated at Concord, Mass., in the buildings recently vacated by the removal of the State Prison to Charlestown. A reformatory is to be established at the former place for the more corrigible of the criminal class. The determination of what cases shall be committed here has been left wholly with the courts, proposals for a limitation by law to first offenders and to prisoners under thirty years of age having been rejected. A minimum sentence of a year, however, is made a requisite, the same as obtains at the State Reformatory Prison for Women. It has been found that in many cases several months of confinement are necessary to enable the prisoners to overcome the disturbing effects of the irregularities, alcoholic and otherwise, from which they are suffering when sentenced. Long sentences, with discretionary power given to the local authorities to release a prisoner on ticket of leave for good behavior, have worked favorably in similar institutions elsewhere, and it is believed will give good results in the present instance.

It is understood that the Commissioners of Prisons have established in the reformatory a separate department for men sentenced for drunkenness, so that they will, in the main, be kept by themselves. Heretofore men convicted of drunkenness have been sent to the city or county prisons, to be congregated with the distinctively criminal classes, and for punishment rather than reformation. Here they will be required to work, as they should be, and will have the medical attendance necessary in many cases. It is hoped by the friends of the new measure that the reformatory

will receive a very large number of men who are under the power of the appetite for drink, who have in the past either been let off with fines or sentenced to minor prisons for brief terms. Under the law a man may be sent to the reformatory for a year if he is convicted of drunkenness for a third time within twelve months. The sentence is not a longer one than is frequently necessary to secure reformation, and will ordinarily be reduced by release upon ticket of leave, under surveillance, when it is thought that reformation has been accomplished.

— Considerable surprise and disgust are expressed, and with reason, by a recent writer in the *Polyclinic*, over the rate of medical fees prevailing in certain districts in Scotland where sixpenny charges are made by physicians. An English town of 50,000 inhabitants is also referred to where one shilling charges are made for medical advice. The writer quotes from the *Medical Press and Circular*, of September 11, 1872, page 216, the following charges adopted by a practitioner of thirty years' experience: "Midwifery, two shillings and sixpence; advice, sixpence; consultations, one shilling," and asks: Is there a barrister in England, or an attorney-at-law in Pennsylvania, who accepts such insignificant fees for professional services? We cannot answer for the barristers, but truth compels us to admit that there is, or was a short time ago, in Boston an institution of a quasi educational nature where there is a resident physician (female homœopathic) whose charges for a consultation, including medicine, are twenty-five cents.

— What could be more characteristic of English conservatism than the maintenance year after year, in the same form, of the Harveian and Hunterian orations? The preëminence of these two masters in medicine is not to be for a moment doubted, but what is there new to be said of either of them to a professional audience after the eulogies which have been pronounced for so many successive years? Everything that is knowable about these men has long since been discovered by repeated gleaners in the well-trodden field, and if an orator saves his speech from the trite and commonplace it is only by taking great latitude in his treatment of the subject. If this custom is to be continued as heretofore, a Harveian oration with the Harvey left out will be the only resource left to the speakers. The sameness of these repeated laudations might well give place to the discussion of some timely and vital professional topic. And yet that the lay public have something to learn of Harvey still is shown by a story told in the *Athenæum* of a Spaniard who, after gazing at the façade of London University, pointed to the statue of Harvey and remarked to the friend who acted as his guide: "Just like you practical English, to erect a statue to a man because he invented a sauce."

— In the *Lancet* (May 17, 1884) is reported a case of sarcoma surrounding the heart. The patient was a girl, aged seven years, who had suffered for eight months previously with labored respiration, which gradually became so distressing that orthopnœa resulted. She also had paroxysmal attacks of angina. When seen the pulse was 150, respiration 40, temperature 98.8° F. On the left side of her chest there was a reddish protuberance with varicose veins running over it. Dullness all over the left chest. The first sound of the heart was feeble, the second inaudible. The dyspnœa continued, with occasional attacks of angina, until, about a month from the time she came under observation, an unusually severe attack left her so exhausted that death resulted. *Autopsy.* The heart was surrounded by a growth two inches in thickness, of a yellowish color and firm consistence. The large vessels had been compressed by the growth. The mass extended some distance down the spinal column. Its origin was difficult to trace, but it was supposed to have begun in the thymus gland. Microscopic examination showed it to be a round-cell sarcoma.

NEW YORK.

— At the last meeting of the Society of Medical Jurisprudence and State Medicine, held December 11th, the annual election of officers took place, and resulted as follows: President, Dr. Frank H. Hamilton; Vice-President, the Hon. Amos Hull; Secretaries (recording, financial, and corresponding), Dr. George W. Wells, Max F. Eller, Esq., and Dr. J. F. Chauveau; Treasurer, Dr. A. M. Jacobus. A paper on The Evidence of Experts was read by Mr. Hull, and in the course of it he said that a clamor had been raised against expert testimony on the ground that it was unreliable, purchasable, and corrupt, and he believed that there certainly was cause for complaint. Members of the Bar had placed unscrupulous medical men on the stand as experts in conspicuous cases, and they had failed to show that candor, impartiality, frankness, truthfulness, learning, and ability, which the public had a right to expect. Having alluded to the conflicting expert testimony in the Gosling, Guiteau, and Rhinelander cases, he remarked that lawyers were often too ignorant to examine medical witnesses, and contended that members of the Bar should be able to question an expert witness with a degree of skill which could overthrow his testimony if it were defective. He then condemned the provisions of a law which had been proposed by Ex-Surrogate Calvin for remedying the present evils, according to which judges would have power to appoint experts to the exclusion of all others, on the ground that the Legislature had no constitutional authority to enact such a law, since it would make medical experts public officers and part of the administration of the State, over which the judges had no legal power. In conclusion, he read the draft of a law framed by himself in which it was provided that judges should have the right to enter an order summoning such learned experts as they might deem necessary, but not to the exclusion of others. In the discussion which followed the paper Mr. Jacob F. Millar said that the trouble with experts was that they seemed to think that they went on the stand for the purpose of swearing evidence in behalf of the side which called them; while in reality they had no more to do with either side of a case than did the interpreter who translated a witness's testimo-

ny for the benefit of the jury who did not understand the language in which it was given.

— The twenty-ninth anniversary of the Woman's Hospital was celebrated on the 11th of December. The report of the Secretary of the Medical Board showed that during the year ending September 30, 1884, 630 patients had been treated in the wards and 4180 in the out-door department. The total number of operations performed in the hospital was 516, and the number of deaths was 23. "From a professional stand-point," said Dr. Hunter, "the Medical Board has good reason to be satisfied with these statistics. A comparison with the year preceding shows a larger number of patients treated, a larger number of operations performed, and a smaller number of deaths, — smaller by eight." A number of gifts and legacies were announced as having been received during the year, the largest of which was one of $25,000 from the estate of Ex-Governor Edwin D. Morgan.

— The Commissioners of Charities and Correction sent their annual report to the State Board of Charities at Albany December 10th. There were relieved during the year ending October 31st, including the out-door poor, 48,325 paupers. Five hundred and ninety-six children were born in the poor-house, and there were remaining November 1, 1884, 8273, of whom 3784 were lunatics, 290 idiots, 130 blind, 63 deaf mutes, and 207 epileptics.

— The first number of a new magazine called *Babyhood* has just been issued. Its object is "to gather and present to parents the best current thought on the care of infants and on all topics relating to nursery life," and the medical editor is Dr. Leroy M. Yale. The first number (December) contains articles on Vaccination by Dr. Yale and the Adulteration of Milk by Dr. John B. Isham.

Correspondence.

A PLEA FOR THE USE OF THE CRAYON IN MEDICAL SCHOOLS.

MR. EDITOR, — With the vast strides that medical instruction has taken in the last two decades, it is astonishing that one means to this end has been practically neglected, namely, the crayon with the black-board.

Art is so universal in its applications at the present day, that it is strange that it has not been made to minister in the didactic and clinical instruction of surgical and anatomical lecturers.

There are so many features in the various branches of medicine and surgery that could be so much more intelligently and vividly presented by the crayon than by the dead subject. One of its widest fields of usefulness is in the illustration of surgical anatomy, where you can give life-like representations of the various regions representing the different tissues, arteries, veins, lymphatics, and nerves in their life-like color. Using the crayon in conjunction with the cadaver, in this line of instruction, the conditions during life could be much more clearly set forth.

But in the department of operative surgery its usefulness is much more apparent. Nothing has ever seemed more useless and unsatisfactory to me than the operations performed before a class of medical students, as is done year after year, on the dead human body. Dead flesh cuts so differently from the living, and dead tissues behave so dissimilarly. The veins and the arteries present hardly one feature of their appearance during operations performed in life. While with a fair amount of skill in drawing, an art anatomist, even though he be not a Rimmer, can depict these operations with all the vivid charms of drawing. "Drawing has been termed the grammar of art. The great artists of the Italian and Flemish schools excel their successors more in the beauty and *power* of their drawing than in anything else." With the use of the crayon and the black-board you can so present an operation that you can almost see the flesh quiver and the vessels bleed.

Dissection of the human cadaver is undoubtedly useful and necessary to the student of medicine and surgery, yet the minimum amount that will answer the purposes of thorough instruction is the desirable amount. Maclaise has done much for surgical anatomy in his beautiful illustrations. Bougery has done the most in his superb and life-like delineations of surgical operations, and I see no reason why these should not be equally well produced on the black-board, giving far more power to the instructor in operative surgery: and the teachers of clinical surgery would also augment their powers as instructors by the artistic use of the black-board, not the off-hand use that is now made of it by many teachers. The surgeon who has so drilled his hand and educated his eye as to use the crayon with artistic effect will hereby promote his skill as an operator. It has often been said that the true physician should be master of all sciences. But the surgeon should be more, he should be a good physician to begin with, and a man of mechanical genius and an artist as well. Very truly yours,

GEO. G. HOPKINS, M. D.,
Surgeon St. John's Hospital, etc.

283 LAFAYETTE AVE., BROOKLYN, N. Y.,
November, 1884.

Miscellany.

OBITUARY. — DR. EDWARD JARVIS.

THE late Dr. Eward Jarvis, whose death we have recently recorded, was eminently a philanthropist. Born in Concord of this State, January 9, 1803, Dr. Jarvis died October 31, 1884, two days before his wife, and was buried with her, fifty-two years after their marriage. After graduating at Harvard College, and later at the Harvard Medical School, he began the practice of his profession in Northfield, from which he soon removed to his native town, where he remained a few years, then going to Louisville, Kentucky. There he became deeply interested in the public school question, and after long and patient work succeeded in introducing the system then common in Massachusetts. He also devoted himself to a careful study of insanity, and so clearly pointed out the evils in the asylum treatment of the insane that many of his suggestions for their improvement were adopted.

His next removal was to Dorchester, where he remained until his death, devoting his time until the infirmities of age came upon him to the treatment of

the insane in his home, attaining, by his personal qualities and his devotion to their care, a rare success. Dr. Jarvis was one of the members of the Corporation of the Perkins Institution for the Education of the Blind, where he rendered the late Dr. Howe material aid; he was Superintendent of the School for Feeble-Minded Youths, Trustee of the Worcester Lunatic Hospital, Consulting Physician to the New England Hospital for Women and Children, and for nearly a third of a century President of the American Statistical Association.

Dr. Jarvis was very much interested in all matters relating to the welfare of mankind, and whenever he had the opportunity he enthusiastically devoted himself with a single mind and large heart to furthering the cause especially of public education, State charity, public health, sanitary science, the treatment of the insane, and vital statistics, upon which subjects he was a frequent contributor to the JOURNAL, where, as elsewhere, he showed that his interest in science was chiefly as a means of benefiting humanity. He was the earliest petitioner to the Legislature for a State Board of Health. He labored year after year, early and late, for its establishment, and he did his best to support it by zealous work. His enumeration of the insane in Massachusetts (Report of 1854), his essays on political economy, social science, and statistics, and his valuable contributions to the United States Army Reports gave him a well-deserved reputation as a statistician in this country and in Europe. As a kind-hearted citizen and philanthropist Dr. Jarvis was ever ready with sympathy and help for every person and good cause that needed them, and his public spirit was shown to the last in the gift of his valuable collection of books and reports to Harvard College, the American Statistical Association, and the public libraries of Concord and Boston. He also gave $500 each to Harvard College and the Statistical Association.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 6, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	712	282	160	134	10	68	13
Philadelphia	927,995	425	140	81	42	22	49	6
Brooklyn	644,526	254	96	43	52	3	22	2
Chicago	632,100	217	101	63	33	4	40	4
Boston	423,800	195	58	27	43	7	13	4
Baltimore	408,520	138	48	18	15	2	11	4
St. Louis	400,000	144	58	43	17	3	21	9
Cincinnati	272,400	123	61	23	10	5	5	—
New Orleans	234,000	113	27	25	5	1	7	1
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	57	17	12	6	1	5	4
New Haven	62,882	25	7	4	5	1	2	1
Nashville	54,400	14	2	1	1	—	1	—
Charleston	52,286	41	15	5	3	—	3	—
Lowell	71,447	28	9	5	5	2	2	—
Worcester	69,442	23	14	11	2	1	9	—
Fall River	62,674	30	11	7	7	—	—	—
Cambridge	60,995	29	7	7	5	3	2	—
Lawrence	45,516	12	—	1	3	—	—	—
Lynn	44,895	13	3	3	3	—	1	—
Springfield	38,090	12	3	4	—	—	2	—
Somerville	31,350	13	4	3	1	—	3	—
Holyoke	30,515	15	4	—	5	—	—	—
New Bedford	30,144	8	4	2	1	2	2	—
Salem	29,503	12	4	3	—	2	2	—
Chelsea	24,347	11	2	1	2	—	—	—
Taunton	22,693	7	0	—	—	—	—	—
Gloucester	21,400	8	2	1	2	—	—	—
Haverhill	20,905	9	2	4	—	1	1	2
Newton	19,421	4	2	2	1	—	—	2
Brockton	18,323	3	0	—	—	1	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	4	2	—	—	—	—	—
Fitchburg	13,433	65	12	3	—	—	2	—
Eighty-three Massachusetts towns	—	—	—	—	—	—	—	—

Deaths reported 2764: under five years of age, 997; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 562, lung diseases 403, consumption 319, diphtheria and croup 273, typhoid fever 70, scarlet fever 48, diarrhœal diseases 45, measles 40, malarial fevers 33, whooping-cough 27, cerebro-spinal meningitis 13, erysipelas eight, puerperal fever four, typhus fever one. From *diarrhœal diseases*, New York 12, New Orleans eight, Chicago seven, Brooklyn five, Cincinnati and Fall River four each, Boston, St. Louis, Providence, Charleston, and Springfield one each. From *measles*, New York 23, Cincinnati seven, Fall River three, Brooklyn and Chicago two each, Baltimore and St. Louis one each. From *malarial fevers*, St. Louis seven, New York and Cincinnati six each, Brooklyn five, Baltimore four, Philadelphia three, Chicago two. From *whooping-cough*, New York 17, Brooklyn, Chicago, and Boston

two each, New Orleans, Providence, Cambridge, and Lawrence one each. From *cerebro-spinal meningitis*, New York seven, Chicago, St. Louis, Cincinnati, Charleston, Worcester, and Springfield one each. From *erysipelas*, New York four, Philadelphia, Brooklyn, Lowell, and Lynn one each. From *puerperal fever*, Brooklyn, Chicago, Cincinnati, and Cambridge one each. From *typhus fever*, New York one.

Cases reported in Boston: scarlet fever 55, diphtheria 40, measles 27, and typhoid fever 16.

In 100 cities and towns of Massachusetts, with an estimated population of 1,307,683 (estimated population of the State 1,955,104), the total death-rate for the week was 19.29 against 18.92 and 15.60 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending November 22d, the death-rate was 20.9. Deaths reported 3512: infants under one year of age 832; acute diseases of the respiratory organs (London) 354, whooping-cough 76, scarlet fever 72, fever 67, measles 59, diarrhœa 40, diphtheria 41, small-pox (London) 33. The death-rates ranged from 17 in Bristol to 26.2 in Preston; Birkenhead 20.1; Birmingham 19.9; Bradford 22.4; Hull 23.9; Leeds 19.8; Leicester 19.6; Liverpool 24.6; London 19.7; Manchester 24.7; Nottingham 25.2; Sheffield 21.4; Sunderland 25.8. In Edinburgh 23.3; Glasgow 29.6; Dublin 32.7.

For the week ending November 22d, in the Swiss cities, there were 21 deaths from consumption, lung diseases 15, diarrhœa 13, diphtheria and croup eight, typhoid fever four, scarlet fever one, erysipelas one. The death-rates were, at Geneva 11.2; Zurich 2.0; Basle 13.2; Berne 25.6.

The meteorological record for the week ending December 6th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date. Nov.–Dec., 1884.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 30	30.111	36	41	30	78	47	57	61	W	SW	NW	9	8	4	F	O	O	—	—
Mon., 1	30.119	34	42	31	80	35	57	57	NW	W	W	12	11	18	C	O	C	—	—
Tues., 2	30.156	30	36	24	80	61	56	66	NW	E	NE	6	6	5	C	C	C	—	—
Wed., 3	29.806	35	43	25	72	26	64	54	NW	W	W	3	5	15	F	F	F	—	—
Thurs., 4	30.066	43	51	34	70	42	60	57	SW	SW	SW	5	11	17	C	C	O	—	—
Fri., 5	30.152	48	58	40	64	34	79	59	SW	SW	SW	5	8	8	C	C	C	—	—
Sat., 6	30.085	42	47	35	96	91	100	96	SW	NW	E	3	6	23	G	G	R	—	—
Mean, the Week.	30.071	38.1	45.3	31.0				64.2										7.30	.27

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

FRANKLIN DISTRICT MEDICAL SOCIETY.

RESOLUTIONS IN MEMORY OF THE LATE CHARLES M. DUNCAN, M. D.

At a quarterly meeting of the Franklin District Medical Society, held in Greenfield, November 19, 1884, exercises commemorative of Dr. Charles M. Duncan, late of Shelburne, were held.

Eulogistic addresses were made by several members present, and the following resolutions were adopted by the Society: —

Whereas as it has pleased our Heavenly Father to remove our much-respected and honored brother, and long-time Fellow of this Society, Dr. C. M. Duncan, who died October 4, 1884, at the ripe age of seventy-six years, falling, as he had often expressed the wish he might do, in the furrow, with the harness on, of the profession he had adorned for more than fifty years;

And whereas, in the death of Dr. Duncan this Society loses its oldest, and, up to the time of his death, most useful and valued member, and the medical profession one of its noblest veterans in caring for, and ministering to, sick and suffering humanity; therefore

Resolved, That in the death of our brother the Franklin District Medical Society loses one of its most useful and esteemed members, and the profession a wise and honest physician.

That, in the record of his long, active, and earnest life, given entirely to the arduous and self-sacrificing service of a country doctor, he has erected a monument to his memory in the hearts of his fellow-men more enduring than any shaft of stone or bronze, and that this Society will ever cherish this record among its richest possessions.

That the memory of his success as a true and scientific physician, without pedantry or egotism, always faithful to his convictions and his patients, will ever stand as a bright and shining example to those of us left behind to do the work that was so well done by him for half a century.

That we extend our deepest sympathy to his bereaved family in this their great loss.

That a copy of these resolutions be presented to his family, and to the County newspaper and the *Boston Medical and Surgical Journal* for publication.

NINTH INTERNATIONAL MEDICAL CONGRESS.

DEATH OF JAMES G. THOMAS, M. D., OF SAVANNAH.

The Executive Committee announces, with great sorrow, the death of Dr. James G. Thomas, of Savannah, one of the members of the General Committee of Organization.

Dr. Thomas took a deep interest in the success of the Congress, and, at a considerable sacrifice, came to Washington, November 29th, to attend the meeting for organization. While on the way he was seized with a violent chill, and on his arrival at once took to his bed, from which he never again rose, the disease proving to be acute lobar pneumonia. He may be said to have lost his life in the service of the Congress, and it is an irreparable loss to it, as well as to his bereaved family and his fellow-citizens of Savannah and of Georgia.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM DECEMBER 6, 1884, TO DECEMBER 12, 1884.

Hammond, Jno. F., colonel and surgeon. Retired from active service, by operation of law, on December 7, 1884, under provisions of Act of Congress approved June 30, 1882. S. O. 287, A. G. O., December 8, 1884.

Irwin, B. J. D., major and surgeon. Granted one month's leave of absence. S. O. 112, Department of Arizona, November 28, 1884.

McKee, J. C., major and surgeon. Leave of absence still further extended one month. S. O. 288, A. G. O., December 9, 1884.

Porter, Jos. Y., captain and assistant surgeon. Sick leave of absence extended four months on surgeon's certificate of disability. S. O. 286, A. G. O., December 6, 1884.

Appointment. — Dr. Charles D. Sawin has been appointed to be physician and surgeon to the Massachusetts State Prison at Charlestown.

Original Articles.

THE LIBERATING OF THE RING FINGER IN MUSICIANS BY DIVIDING THE ACCESSORY TENDONS OF THE EXTENSOR COMMUNIS DIGITORUM MUSCLE.[1]

BY WILLIAM S. FORBES, M. D.,

Senior Surgeon to the Episcopal Hospital, Demonstrator of Anatomy at Jefferson Medical College.

When the middle finger and the ring finger are brought down by the flexor muscles, and their balls are held down firmly against the keys of a musical instrument, as in performing on a piano, for the purpose of producing continuous sounds, and at the same time it should be necessary to extend and then to flex the ring finger in order to produce accompanying sounds, it will be found that in the still flexed position of the middle and little fingers the ring finger can be but very slightly extended. Its complete extension, without operative interference, can only be brought about by long-continued exertion in practice, when elongation of certain accessory, but restricting, tendons is made by nutritive change.

To explain the cause of the inability to extend at once completely this ring finger, and to demonstrate the way to remove this cause by a surgical operation of simple moment, is the object of this paper.

In the dorsal aspect of the metacarpal zone in man, dissection shows that the tendon of the extensor communis digitorum muscle that goes to the ring finger gives off a slip on either side, one of which goes to join the extensor tendon of the middle finger, and the other to join the extensor tendon of the little finger. These two slips are known as the lateral vincula or *accessory* tendons. Now while the middle and little fingers are held in a flexed position these accessory tendons, by virtue of their attached extremities, hold in check the extending power of the muscular fibres operating upon the tendon of the ring finger, and thus this finger is restricted in its function of extension to a very limited degree.

These accessory tendons are sometimes found in one hand and not in the other. They exist more frequently in the right hand than in the left. Now and then the extensor tendon of the ring finger splits at the point of departure of the accessory slips and then reuniting leaves a button-hole appearance, and again these accessory slips are entirely absent.

In 1857 Mr. J. D., a young musician and a performer on the piano, consulted me in regard to his inability to *lift up*, as he expressed it, the ring finger of his right hand while the middle and little fingers neighboring were held flexed on the keys of his piano.

This restriction did not exist in the ring finger of his left hand; with it he had no trouble. I explained to him the presence of the accessory tendons in his right hand, with their restricting power, and told him of their probable absence in his left. They could be distinctly felt in his right hand; I could not observe them in the left.

At his desire I performed the operation of subcutaneous tenotomy on the tenth day of November of that year. An incision less than a quarter of an inch in length was made through the skin and fascia just below the carpal articulation of the metacarpal bone of the ring finger, and above the radial accessory slip of his right hand and parallel with, and on the radial aspect of, the extensor tendon of the ring finger.

A narrow, blunt-pointed bistoury placed in this incision, with its handle depressed and its blade flatwise, was carried beneath the accessory slip and down as far as just a little above and between the knuckles of the ring and middle fingers, where its blunt point could be felt beneath the skin. The bistoury was now turned with its sharp edge towards the skin, and the middle finger strongly flexed and the ring finger extended, so as to make tense the accessory slip, when, with a gentle sawing motion, the slip was at once severed. The bistoury, turned flatwise, was now withdrawn through the same opening by which it entered. The accessory slip on the ulnar side of the extensor tendon of this ring finger was divided in a similar manner immediately afterwards by a distinct incision through the skin and fascia on the ulnar side of the extensor tendon of this finger. Not a quarter of a drachm of blood was lost in the two operations. A small piece of adhesive plaster was placed over each incision, and a figure-of-eight bandage was carried around the wrist and hand, leaving the thumb free, and kept on for two days, when the patient was asked to perform on his piano in order to keep the cut extremities of the accessory tendons apart. A slight swelling of the parts existed for less than a week. The liberation of the ring finger was complete. The ball of the finger could be elevated an inch farther from the plane of the hand, and my patient expressed his gratification at the extended and great facility with which he could use this ring finger on the keys of his piano.

In 1881 Mr. Richard Zeckwer, the accomplished professor and director of music in the Philadelphia Musical Academy, called on me and asked me whether I could not cut these accessory tendons. He stated that if they could be cut in some of his students in music that he was sure much time would be saved, and their advancement in music greatly accelerated.

Mr. Zeckwer had been well taught the anatomy of the hand in Leipsic, where he was educated in music, and was well aware already of the restraining force of these tendons. His views were right, in my opinion. He brought to me a young man whose left ring finger was very much restricted, and the tense accessory tendons could be distinctly felt. At the young man's desire I operated at once, and on dividing the tendons of the fingers he could lift this finger from the plane of the hand an inch higher than before the operation.

Since 1857 I have divided these accessory tendons for the purpose of liberating the ring finger in fourteen persons, and in nine of these the operation was performed on the tendons of both hands at one sitting. I do not think at any one of these operations half a drachm of blood was lost. In not one of them did any accident follow the operation. The issue in all of them was successful.

In two persons who came to my office together, strangers from a distance, I performed this operation on the two hands of each of them in the presence of my friend, Dr. Addinell Hewson, Jr. These two patients said, with emphasis, that there was not only relief in using the ring finger, but there was also an absence of exertion, which before the operation was constant and forcible along the back of the fore-arm and hand.

[1] Read before the Philadelphia County Medical Society, November 12, 1884.

It will be observed that in this operation the totality, the complete sum of the power of the extensor tendon going to the ring finger is left unimpaired. Nor does the operation lessen in the least the power of the common extensor muscle to extend the neighboring fingers.

The question may be asked, then, Of what use are these accessory tendons in man? As far as I am capable of observing they are entirely vestigial. Just as we may believe that the plantares are vestigial muscles.

This brings us to look into the comparative anatomy of these accessory tendons, and to examine the entire muscular anatomy of the hand. Professor Owen thus writes in regard to the flexor and extensor muscles in the hand of mammals:[1] "The deep and superficial flexors of the fingers are distinct, but a remnant of that blending which exists in most lower mammals may be seen in the short connecting tendon which in the aye-aye passes from the ulnar belly of the 'flexor sublimis' to the division of the 'flexor profundus,' giving off the tendon to the middle fingers. The fleshy part of both flexors, but especially the deep one, is continued nearer to the hand in *Lemuridæ* and most other *Quadrumana* than in man, thus enabling the muscles to continue their action as finger-benders when the hand itself is flexed. . . . The 'flexor brevis,' the 'abductor,' the 'adductor,' and 'opponens pollicis' are present in the chimpanzee and gorilla, as are likewise the 'extensor longus' and 'extensor brevis.' In the orang these muscles begin to be confounded; in most lower *Quadrumana* they are blended together. The homologue of the 'extensor indicis' of man bifurcates and sends a tendon both to the index and medius digit; the homologue of the 'extensor minimi digiti' likewise splits and sends a tendon also to the annularis; so that while in man the index and minimus only have two extensor tendons, all four fingers have them in most *Quadrumana*. The hand is thereby the stronger as a suspensor of the body from a bough."

In all felines we find that although lateral motion in the hand is restricted flexion and extension are very forcibly made. Thus in the cat we find not only a common extensor, but also a proper extensor to the index, middle, ring, and little fingers. The proper extensors to the index and to the little fingers have their analogues in man in the extensor indicis and the extensor minimi digiti. In man the common extensor tendon of the ring finger gives off lateral branches; in the cat it does not, for here we find a perfect additional organ. We may believe, then, that the accessory tendons going off from the extensor tendon of the ring finger in man are the vestigial remains of muscles which in the lower animals are developed and perfect organs.

The perception of pleasure in the equality of sounds is the principle of music. If the power of producing the equality of sounds is restricted by the vestigial accessory tendons they should be divided, especially as this division is so easily accomplished.

I would divide them just as I would divide the tendon of the internal rectus in certain cases of squint in order to extend the range of vision.

In examining the muscular anatomy of the hand it will be found that flexion and extension are produced not only by those muscles which especially make these motions, but by all those muscles whose tendons pass beyond the radio-carpal articulation. Flexion of the wrist is produced by the radial and ulnar flexors of the carpus, and is aided by the flexors of the fingers when the action of those muscles of the fingers is either completed or is opposed by any resistance, as when the over-extended hand is pressed against a surface in pushing or in the support of the body. Extension of the wrist in a similar manner is accomplished not only by the three muscles specially devoted to that function, — the extensor carpi radialis longior and brevior and the extensor ulnaris, — but also by the extensors of the fingers.

To insure the efficient action of the long extensor and flexor muscles of the fingers it is necessary that there should be simultaneous action of the flexors and extensors of the wrist respectively; for the wrist-joint must be fixed backwards by its extensors in order that the long flexors of the fingers may act. And the wrist must be fixed forwards by its flexors in order that the long extensors may act upon the fingers.

The flexor communis digitorum sublimis and the flexor profundus bend respectively the second and the third phalanges of the fingers, while the extensor communis extends the *first phalanx*. The four lumbricales, on the other hand, and the seven interossei muscles have a double action in consequence of their insertion into the lateral expansions of the extensor tendons, and some of the interossei directly into the base of the first phalanges. This action consists, first, in the flexion of the fingers at the metacarpo-phalangeal articulations, and, second, in extension of the second and third phalanges. The lumbricales and interossei,[2] therefore, are antagonists to both the long flexors and to the long extensor. This partial and combined action of the long and short muscles upon the fingers has been well known for some time, especially as regards the lumbricales, but it has recently been confirmed and elucidated as regards the interossei by the electro-physiological experiments and pathological observations of Duchene.[3]

With respect to the interossei, it is further to be observed that besides being *flexors* of the *first* phalanges, by virtue of their insertion into the base of these bones, and at the same time *extensors* of the *second* and *third* phalanges, by virtue of their further insertion into the lateral expansions of the extensor tendons, they severally exercise an abducting or adducting action on certain fingers or direct them away from or towards the middle line of the hand, according to the places of their respective insertions. And thus the four dorsal interossei are abductors of the index, middle, and ring fingers, and the three palmar interossei are adductors of the index, ring, and little fingers respectively.

[1] Owen, Comparative Anatomy and Physiology of Vertebrates, vol iii., p. 53.

THE TYPHOID OF NEW-COMERS.

BY JOHN D. HALL, M. D.,

Assistant Surgeon, U. S. A., Fort Randall, D. T.

FORT RANDALL, Dakota Territory, has in some respects an advantage of location as being remote from the lines of travel. In fact, probably few places exist within a radius of a thousand miles from Chicago so unexposed to the waves of travel and traffic as this post.

Placed in the midst of a big Reservation, and with no settlers for many miles to disturb or contaminate, and with a river wide and deep between it and the ap-

[2] Quain's Anatomy.

[3] Duchene, Physiologie des Mouvements.

proaches of civilization, it is mostly left to the action of such causes of disease as the locality or the people themselves may occasion.

For the simplification of some medical problems such places may have an advantage. Diseases of the contagious class are few and far between. Diphtheria, scarlatina, cerebro-spinal fever, that have been such scourges elsewhere, are here unknown, and, in fact, with the occasional exception of measles, mumps, whooping-cough, and typhoid fever, it may be said the whole fiendish brood of infectious diseases is conspicuously absent.

So accustomed does the mind become in such a locality to trace contagions to the introduction of their specific cause, that in cases affording no clue we are naturally led to the conclusion that these diseases belong to the place, that is, are autochthonous. In this way the writer has been led to infer the spontaneous origin of typhoid fever.

The theory of typhoid originating *de novo* is not a new one, as it has long been advocated by Murchison and others, who refer the causation to the decomposition of filth. How much or how little the power of filth may have to do with it, there still seems room for research. Certainly the connection of typhoid indissolubly with filth (pythogenesis) seems hard to understand in the light of numerous observations, since one often sees the foul products resulting from faulty drainage of weeks' or even months' standing without any concomitant of typhoid, and, per contra, cases of typhoid arising in other places without any fault of drainage really open to criticism.

Here is a post having a water supply of acknowledged good quality, with cleanliness and ventilation carefully maintained in its living rooms, and cleanliness and disinfection in its outhouses. The writer has never known of a case of typhoid fever among habitual residents of the post or vicinity, but occasionally has a case among new-comers. During the last four years there have occurred five cases of typhoid (at long intervals apart), of which four recovered and one died. The writer has notes of the four which recovered, the other was seen only in consultation. There was little danger of confounding these cases with any form of malarial fever. No fact could be much better evidenced than the absence of malaria at this place. No case is remembered as being met with, except here and there the outcropping of preëxisting malaria in the system; and, moreover, such cases have always proved exceedingly mild and tractable, yielding readily to quinine. The cases of typhoid, however, showed no disposition to yield to quinine treatment, had a slow progressive onset, and ran through their tedious weeks with no semblance of remission. One of the cases occurred in midwinter, when malarial causes are supposed to be in abeyance even in their chosen haunts. All of the cases occurred in newcomers, one in the first week, others in the second or third week, and two in the seventh or eighth week after arrival. Unless we suppose an extraordinary period of latency, the last two cases, at least, must have been contracted after arrival. But in what way? Faulty drainage and sewer gas (the supposed root of so much pathological evil); filthy surroundings, and impure water supply may be excluded in a place so isolated, and so hygienically cared for as this. Far apart in time of occurrence, there could be no contagion from one case to another — neither direct nor miasmatic contagion (Liebermeister). Moreover one of the two cases last mentioned was in an officer's family, living in a commodious house, where there had been no cases of serious illness for several years, and have been no other cases since this. This case was that of a boy of thirteen years, delicate, arrived seven weeks before from Camp Lewis, Colorado; the case was of considerable gravity, with a sustained high range of temperature till about the third week, when it began to decrease and oscillate; after four weeks there was a relapse of ten days, and after another interval of improvement there came a second relapse of five days, so that the febrile period covered fully eight weeks, recovery then taking place to extra good and lasting health.

The other of the two cases above referred to was that of a sergeant, named Donovan, who died after two weeks' sickness about two months after arrival from Governor's Island. There were no notes nor temperature charts of this case, and there was no autopsy.

The only theory that seems satisfactory to the writer in regard to these cases is that they are due either to climatic influence, or to that difference of telluric and atmospheric surroundings known as change of climate. Taking the first part of this hypothesis as having the more weight, we would assume that there is a slight tendency towards typhoid at Fort Randall, as also in many other portions of our northern zone, and that here it is never intensified by crowding and neglect, and is just enough to sometimes affect new-comers.

This hypothesis of autochthonous origin of typhoid would also explain such outbreaks as are vaguely called mountain fever and typho-malarial fever. Such fevers are often spoken of and assumed to exist even in localities where the commoner manifestations of malaria, such as intermittents, exist not at all or only in very slight degree.

While at Fort Benton, some years ago, the writer remembers there were reports of typho-malarial fever having caused an endemic among the soldiers soon after their arrival a year earlier. Nothing deserving to be relegated to the nomenclature of mountain fever or typho-malarial fever was seen in the three following years, but several cases were seen which ran the regular course of typhoid (about one or two cases a year), and these were mostly in new-comers.

Recurring to the cases seen at Fort Randall, and particularly the one case most dwelt upon, the question arises, was it typho-malarial, although there was no malaria? Was it mountain fever, although the altitude is only moderate (1200 feet)? Was it pythogenic, although in surroundings remarkably cleanly? Or was it the typhoid due to conditions imperfectly known, incident to climatic influence, and which might be designated The Typhoid of New-Comers?

— There is no new thing, even therapeutically speaking, under the sun, and nerve-stretching turns out to be of respectable antiquity, as a contemporary points out. Philip Doddridge seems to have suggested it early in the eighteenth century, and on rather a wholesale scale. He says: —

"Arise, my soul, stretch every nerve."

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.[1]

BY E. H. BRADFORD, M. D., AND H. L. BURRELL, M. D.

ACETABULAR HIP DISEASE.

Dhourdin [2] has examined the material at the hospital at Berck and found a number of cases of diseases of the hip-joint where the primary seat of affection appeared to be in the acetabulum. The diagnosis was to a certain extent conjectural, and was based chiefly upon careful palpation within the rectum. The treatment consisted of correction of the distortion under an anæsthetic and fixation of the trunk and limb without extension and excision in the severe cases. The statistics are based upon 237 cases, and show fifty-three per cent. of recovery. Under conservative treatment eighteen per cent. died; four per cent. were improved. Twenty-six patients underwent excision. Fifteen per cent. complete cure; forty-two per cent. incomplete cure; forty-two per cent. mortality. The patients at the hospital at Berck have the benefit of sea air.

PSEUDARTHROSIS OF THE TIBIA.

Hahn [3] describes an ingenious method for restoring the usefulness of limbs greatly shortened by complicated fractures. "The conical extremity of the upper end of the tibia having been removed the fibula is divided at the same level, its lower extremity is implanted in the medullary canal of the tibia, and the lower end of the tibia is refreshed in an oblique direction in order to strengthen laterally the support afforded the fibula."

TREATMENT OF INFANTILE PARALYSIS.

Bernard Roth [4] gives the following as the guiding principles to be followed in the treatment of infantile paralysis: —

(1.) To improve the power of those affected muscles which have still some voluntary power left.

(2.) To prevent the onset of any deformity, or, if this has already occurred, to reduce it to a minimum.

To improve the power of the affected muscles he advises, first, the correction of the lowering of temperature of the limb by hot baths, friction, the wearing of loosely-knitted woolen stockings, or fur-lined cloth leggings. Next, massage or rubbing should be faithfully applied for a half hour or an hour morning and evening. Massage he divides as follows: —

"Kneading," a combination of grasping and large pinching and pressure with each hand, one after the other, so that what is left of the wasted muscle is thoroughly squeezed and moved about. As considerable force is used, the skin should be protected by a lubricant.

"Circular friction by the thumb" is done as follows: The thumb is firmly placed on any given spot, and while considerable pressure is exerted, describes small circles, from left to right, and from right to left. A spot an inch higher or lower or to one side is then treated in the same way.

General friction of the limb he also considers of importance.

Of more importance, however, than massage is the methodical exercise of the muscles which have partially recovered. This is gained by medical gymnastics or the so-called "Swedish exercises." Although faradization is useful it does not compare with the methodical exercise of the muscles.

DIRECT TREATMENT OF SPINAL CARIES.

Mr. Frederick Treves,[5] in a paper read before the Royal Medical and Chirurgical Society, advocates operative interference in cases of caries of the lumbar — and with some reservation — the last dorsal vertebræ, where purulent collections have formed. A vertical incision is made near the outer edge of the erector spinæ; the sheath of that muscle and the quadratus lumborum are cut through; the psoas muscle is incised, and the vertebræ are reached by continuing the operation along the deep aspect of that muscle. By means of this operation the vertebræ can be examined, carious or necrosed bone removed, and a ready and direct exit can be given to all morbid products. If Heuter's statement be true, that the two vertebræ most frequently attacked by caries were the last dorsal and first lumbar, the operation would be of frequent application.

Mr. Treves has operated on three patients, all of whom made a good recovery.

Mr. Richard Davy reports [6] a case of removal of necrosed particles of bone from a diseased vertebræ.

STATISTICS OF SPINAL ABSCESSES.

Before the Royal Medical and Chirurgical Society Mr. R. W. Parker [7] said that out of one hundred and eighty-three cases of caries of the spine, he found nine cervical, eighty-two dorsal, twenty-one dorso-lumbar, thirty-seven lumbo-sacral, and in forty-two cases the position was not noted.

In about eight per cent. of his dorsal cases suppuration ensued, while it was found in thirty per cent. of his dorso-lumbar cases, and in seventy per cent. of the lumbo-sacral.

THE VALUE OF THE PLASTER-OF-PARIS JACKET.

Sonnenburg,[8] after six years of experience with the jacket, and the treatment of 205 cases and 600 jackets, draws the following conclusions: In antero-posterior curvatures he regards extension as dangerous, for example, death by compression of the spinal cord and trachea — by a large abscess which lay along the spine. He thinks that extension causes abscess. He considers that a plaster jacket ideally fulfills the conditions required for an apparatus for scoliosis. Küster has never seen any abscesses which could be attributed to extension.

Israel, Küster, and Eulenburg, Sr., all use the jacket with extension in lateral curvatures.

Eulenburg, Sr., especially decried the use of extension in plaster-of-Paris jackets in angular curvature. In his opinion it did not maintain extension, and the tendency to union was prevented by separation of the diseased surfaces.

Mr. Macnaughton Jones [9] states that his practice is, "In angular curvature, until I believe that ankylosis is complete, and the patient has had all the benefits

[1] Concluded from page 584.
[2] Thèse de Paris, 1884.
[3] Centralblatt für Chirurgie, May 24, 1884. Philadelphia Medical News, September 13, 1884, p. 291.
[4] British Medical Journal, 1884, No. 1236, p. 459.
[5] British Medical Journal, January 12, 1884, p. 58.
[6] Medical Times and Gazette, January 19, 1884, p. 78.
[7] British Medical Journal, January 12, 1884, p. 58.
[8] London Medical Record, July 15, 1884.
[9] On the Treatment of Spinal Curvature by Extension and Jackets. London: J. & A. Churchill, 1884, 8vo, pp. 127.

possible from a rigid support, I apply and keep on the uncut plaster or tripolith jacket." He "combines rest in the prone position with the employment of the support." "As a rule in the early stages of Pott's curvature he does not use extension, save in applying the jacket."

ÆTIOLOGY OF LATERAL CURVATURE.

A difference in the length of the lower extremities has long been recognized as causative of this deformity. Henry L. Taylor, in a paper on Primary Crural Asymmetry,[1] reports sixteen cases of crural asymmetry, and demonstrates the strong bias this gives to the production of lateral curvature and obliquity of the pelvis.

PROGNOSIS IN LATERAL CURVATURE.

Pravaz [2] considers the patient's general condition of great importance in the prognosis of lateral curvature. Chlorosis and imperfect nutrition are unfavorable to the reëstablishment of the figure. In general, recovery of the figure is more to be expected in younger than in older patients, but the writer wishes to warn against the prevalent idea that patients will grow out of a curve of the spine. If the distortion is manifest and does not disappear in the horizontal position, careful treatment is necessary. The prognosis in curvature following phthisis is unfavorable, and distortions due to disturbances of muscular action are often very difficult to treat, and rickety distortions are more unfavorable for treatment than those due to a loss of flexibility of the spine in children at the time of the second dentition or puberty. Curvatures submitted to treatment at an early stage, even when quite pronounced, may become corrected provided the patient's general condition is good, the prognosis depending in a large measure upon the amount of rotation of the vertebræ present rather than on the amount of the curve. Curvatures in the lumbar region are less favorable than those in the dorsal region, and curvatures with a long radius are more readily straightened than those with a short.

SPINAL DEFORMITY.

Mr. Arbuthnot Lane [3] describes three distinct forms of spinal deformity occurring among burden bearers. The *first form* occurs in men carrying weights on their right shoulder, as draymen.

A man supporting a weight on his right shoulder, it will be found that his spine forms a large curve with its convexity to the right, and that the upper dorsal and cervical vertebræ are flexed more than normal. There is an accompanying slight rotation of the vertebræ which affects the position of the ribs. By the continual pressure which the weight exercises on the upper two or three ribs on the right side they, acting as levers on the bodies and transverse processes of the vertebræ, rotate the upper three or four dorsal vertebræ towards the left, forming a small curve with its convexity to that side. The situation of the spinous processes is not modified by this relation to any extent. The formation of the upper curve necessitates a compensatory increase in the deviation of the lower part of the spine from the median line with an increased rotation of the bodies of the vertebræ. The form of the bodies and inter-vertebral substances and the position of the ribs on either side are altered by these compensatory changes. In the lumbar region there is no compensatory curve to the left.

Second form. This is when heavy loads are carried on the back. Here the pressure produces compression, changes in the bodies and inter-vertebral substances of the fifth, sixth, and seventh cervical vertebræ, straightening of the upper two thirds of the dorsal spine, marked and progressive lordosis and destruction of the bodies and inter-vertebral substances of the lower dorsal and upper lumbar vertebræ at that part of the spine where the straightened dorsal part joins the lumbar convexity. It produces a form of spondylolithesis.

The *third form* is due to carrying loads on the head. The changes produced are most marked in the cervical spine, where a well-marked lateral curve, with its convexity to the right, is produced. The axis and third cervical vertebræ are frequently fused together, and the bodies and fibro-cartilages of the cervical vertebræ are much modified, especially in the concavity of the curve and between the upper vertebræ. In the dorsal region there are two compensatory lateral curves, the upper being most marked. The convexity of the upper one is directed to the left, that of the lower to the right.

TUBERCLE IN JOINT DISEASE.

Barwell [4] considers that Schüller's (of Greifswald) experiments conclusively prove "that a tubercular state of the body does not produce joint disease. In other words, the earlier phases of joint disease are not tubercular." Schüller injected tuberculous material into the lungs of twenty-four animals (dogs and rabbits), and at the same time, or soon after, inflicted a sharp blow on the right knee-joint. Not a trace of tubercular disease could be found in any of the uninjured joints, and although tubercle completely studded nearly all of the animals' viscera only six injured joints showed suspicious spots, which were described "as perhaps initial tubercle," and some as "heaped-up epithelioid cells" and "colossal giant cells." Barwell clings to the idea of a strumous diathesis, and hence considers the "ambulatory treatment of chronic joint disease the proper one."

CONGENITAL DISLOCATIONS OF THE HIP.

This affection has been extremely intractable to permanent relief.

Esmarch has cured a case by permanent extension. Brodhurst drew the head of the bone into the acetabulum after subcutaneously dividing the tendons of the obstructive muscles. A groin pad and a thigh splint were worn for six weeks, and the patient was able to walk without the aid of artificial support. Dr. Heusner, of Barmen,[5] has placed on record an excision of the hip for congenital dislocation: —

"The operation was done for excessive suffering in the left joint of a girl twenty years of age. The ligamentum teres was absent, the head of the femur was about as large as that of a child of six years, ovoidal in shape, and much flattened, and its surface was uneven, and the neck of the bone formed an obtuse angle with the shaft. The acetabulum was fully developed and of normal size, although its rim was somewhat flattened and polished above and below. The head, neck, and shaft, and nearly an inch of the shaft of the femur

[1] New York Medical Record, April 26, 1884.
[2] Bull. et Mém. de la Soc. de Chir. de Paris, t. x., p. 177.
[3] Lancet, June 14, 1884, p. 1074.
[4] Lancet, August 2, 1884.
[5] Philadelphia Medical News, 1884, xlv., 463.

having been excised, the acetabulum was made deeper with the chisel and the parts brought into apposition."

After eleven weeks the patient was able, with the aid of a cane, to walk for a half hour without fatigue; the pain was relieved, and a useful limb resulted.

OSTEOTOMY FOR ANKYLOSIS AT HIP-JOINT.

Poore [1] says deformities of the hip-joint which may be relieved by osteotomy may be considered under four heads: —

(1.) After hip-joint disease.
(2.) After rheumatism.
(3.) After unreduced dislocation.
(4.) After fracture united at an angle.

He considers that an angle of 125° with the long axis of the body is the most useful one for a patient's limb; in that he can sit down, walk, or put his shoes on.

The object of an osteotomy he considers is to correct any adduction of the limb and to reduce the amount of flexion to an angle of 125°. Three points of section of the femur are: —

Through the neck;
Between the trochanters;
Below the trochanter minor.

The accidents following osteotomies of the upper end of the femur are few. Out of 148 patients 119 were cured with the limb in good position. Seventeen died, and in twelve the operation failed, making a mortality of 11.48 per cent. In thirty-three cases suppuration is reported, and in only three is any necrosis mentioned. In three cases an Adams operation did not correct, or the deformity returned, and a section below the trochanter minor was performed with success. In one case compression of the femoral vessel, from tilting upward of the upper fragment after a section below the trochanter, occurred. In one severe hæmorrhage happened on the twentieth day after a section through the neck, from either the femoral or one of its large branches, necessitating a ligation of the femoral. The patient recovered.

Maisonneuve is reported to have divided the sciatic nerve during an operation of section between the trochanters through a large wound.

Many of the operations were performed before experience had demonstrated the proper ones for section. Hence the rate of mortality.

OSTEOTOMY OF THE HIP.

C. B. Keetly [2] has reported ten osteotomies of the hip. Six were done above the trochanter, and four below it. Nine were for ankylosis, one was for an irreducible dislocation. All were done with the chisel and mallet, and under strict Listerian methods. The dressings were changed at most once, or not at all. In two cases drainage tubes were used and necessitated more frequent changes of dressing. One recurrent hæmorrhage occurred. All did well. There was but slight constitutional disturbance.

Each patient was kept in bed six weeks, and allowed to discard crutches and sticks in a few weeks.

GENU VALGUM.

MacEwen [3] has performed osteotomy for genu valgum 820 times. Death has followed the operation in five cases, but in no one instance was it directly traceable to the operation. Suppuration occurred in eight instances; but during the last three years in all the cases the wound has healed without the formation of pus.

In all the cases the operation has corrected the deformity and improved the strength and utility of the limb.

A relapse even to a slight extent was noticed in only one case. The earliest age at which MacEwen has operated is seven years, and the oldest forty-seven.

The average duration of treatment is six weeks in the splints and four weeks convalescing and learning to walk. Combining his own cases with those of British surgeons he has 1384 limbs operated upon by the supra-condyloid method. Three deaths directly traceable to the operation have occurred. Two from septicæmia, the third from a cause not stated.

Howard Marsh [4] reports a case where the anastomotica magna was wounded. The incision was made in the usual position for a MacEwen's operation in a child aged seven. Recurrent hæmorrhages took place, and on the seventh day Mr. Marsh enlarged the wound and came at once upon the anastomotica magna, in the side of which an oval opening was plainly seen from which the blood was freely escaping. The vessel was completely divided, ligatured; bleeding ceased and never returned. The child made a good though slow recovery.

Mr. McGill [5] records a case where the femur was divided transversely above the condyles. A hæmorrhage occurred on withdrawing the chisel a second time, which was controlled by pads. In three hours the blood oozed through the pads. The dressing was removed. The popliteal space was found much distended. An incision five inches in length was made over the outer border of the semi-membranous muscle, exposing the artery. The artery was found completely divided. The two ends were secured with catgut. The case recovered.

At the Annual Congress of French Surgeons [6] Boeckel reported twenty osteotomies and twenty osteoclases for genu valgum.

The results were uniformly good. In his osteoclases he had three accidents, namely, a rupture of the external lateral ligament, a suppurative periostitis, and an incurable pseudarthrosis.

Lumniczer [7] has successfully treated a case of pronounced double genu valgum, in a patient nineteen years of age, by osteotomy of the tibia in one limb, and fixation of the other limb by a plaster-of-Paris in a flexed position for nine weeks. (Hueter's method.) The limbs were found straight, and the deformity had not reappeared in a year.

OSTEOCLASIS FOR GENU VALGUM.

Polaillon and Gillette [8] report successful cases of rectification of osteoclasis (with Collins's apparatus) for the correction of genu valgum in patients fifteen and eighteen years of age, the fracture in both cases occurring at the point of election (that is, above the condyles), and without relaxation of the ligaments.

MM. Rolin and Molieré have an osteoclast whereby the femur may be broken two fingers' breadths above

[1] New York Medical Journal, June 7, 1884, p. 633.
[2] British Medical Journal, February 9, 1884, p. 261.
[3] Lancet, September 27, 1884.
[4] British Medical Journal, April 5, 1884, p. 665.
[5] Lancet, May 17, 1884, p. 891.
[6] New York Medical Record, August 9, 1884, p. 165.
[7] Centralblatt f. Chirurgie, No. 37, 1884.
[8] Bull. et Mem. de la Soc. de Chir. de Paris, 1883, t. ix., p. 885.

the knee-joint, and the joint is not in the least degree affected. They state "that after the fracture an interval of at least three days should elapse before the limb is straightened.

OSTEOTOMY AFTER A BADLY UNITED FRACTURE OF THE FEMUR.

Lumniczer[1] corrected a severe deformity in the femur consisting of a sharp angle in the upper third of the femur. The operation was performed four months after the fracture, and was performed under strict antiseptic precautions. The deformity was corrected, union by first intention took place, and eight weeks after the operation the patient was able to walk about upon crutches.

BIBLIOGRAPHY.

AFFECTIONS OF THE JOINTS: Fungous Disease of Joints, Albrecht, 1884, Central. f. die med. Wissenschaft., July 26, 535. Affections of the Hip, Knee, and Ankle, H. Macnaughton Jones, J. & A. Churchill, 1884. Hip and its Diseases, Gibney. Dry Caries of the Knee-Joint, Tr. Path. Soc. Lond., Little, 1882–83, xxxiv., 229. The Fundamental Principles of Mechanico-Therapy in Hip Disease, Roberts, 1884, N. Y. M. J., 39, 289. Chron. Art. Ostitis of Knee-Joints, Roberts, 1884, Med. News, xliv., 651. Des Corps Mobiles Articulaires et de leur Traitement, Par., 1884, Herland, 48 pp., 4to, No. 214. Die Operative Behandlung der Ankylosen des Kniegelenkes, Jena, Knauf, 1884, 75 Pfng. On Tuberculosis of Bones and Joints, and its Treatment by Ignipuncture, Med. News, Park, 1884, xlv., 227.

AFFECTIONS OF THE SPINE: Extension in the Treatment of Diseased Vertebræ, B. Brown, B. M. and S. J., 1884, cxi., 1. Caries of Spine mistaken for Morbus Coxæ, Clippingdale, 1884, B. M. J., 1, 166. On the Treatment of Spinal Curvature by Extension and Jackets, London, J. & A. Churchill. Backward Traction in Treatment of Spinal Caries, Stillman, J. Am. M. Assoc., 1884, ii., 316. Cause of Lateral Curvature, Shaffer, 1884, Arch. Med., xi., 105. On the Direct Treatment of Spinal Caries by Operation, 1883–84, Proc. Roy. M. and Chir. Soc., 185.

DEFORMITIES: Osteotomy and Osteoclasis, Ann. Cong. of French Surgeons, 1884, N. Y. Med. Rec., Aug. 9, 165. Dupuytren's Finger Contractions, 1884, N. Y. Med. J., April 19, 436. Robin and Molliere on Osteoclasis, 1884, Lond. Med. Rec., July 15, 285. Case of Giant Growth of the Lower Limb, with Remarks, Fred. Treves, 1884, B. M. J., June 14, 1147. Traitement du Genu Valgum de l'Enfance, par l'Ostéotomie Linéaire, Beauregard, Arch. Gén. de Méd., Paris, 1884, i., 129. On the Use of Force in the Treatment of Resistant Club-Foot, Bradford, Med. Rec., 1884, xxv., 316. Cause of Club-Foot, Parker and Shattock, B. M. J., 1884, May 24, 998. Excision of Tendo-Achillis in Talipes Calcaneus, Walsham, B. M. J., 1884, June 14. Osteotomy Cases, Marsh, B. M. J., 1884, i., 665.

EXCISIONS: The Non-Necessity of Tarsotomy in Talipes of Children, Willard, 1884, Med. News, May 30th. Coxectomy for Congenital Dislocation of the Hip, Heusner, Phil. Med. News, 1884, xlv., 463. Excision of Knee-Joint, McBurney, Med. News, 1884, xliv., 409. Excisions of the Knee-Joint, Jalland, Lancet, 1884, ii., 145,

INFANTILE PARALYSIS: Case resembling Inf. Paralysis, F. Minot, B. M. and S. J., 1884, cx., 275. Early Treatment of Inf. Paralysis, Massey, Phil. Med. Times. 1884, April 5. Resections of Muscle in Infantile Paralysis, Keetly, Brit. Med. Jour., May 31, 1058.

OTHER SUBJECTS: Plaster Supports, W. T. Browne, B. M. and S. J., 1884, cx., 269. Primary Crural Asymmetry, H. L. Taylor, N. Y. Med. Rec., April 26, 1884. Unilateral Atrophy, Burrell, B. M. and S. J., cxi., 462. Rupture of a Hydrocephalus, Manby, 1884, Med. T. and G., No. 1765. Sonnenburg on the Value of Plaster Jackets, London Med. Record, July 15, 1884, 77. Pseudarthrosis of the Tibia, 1884, Hahn, 1884, Centralblatt für Chirurgie, May 24. On the Treatment of Flat-Foot, Walsham, Med. P. and Circ., 1884, xxxvii., 136. MacEwen's Osteotomy for Genu Valgum. Wound of Popliteal Artery, McGill, 1884, Lancet, i., 891. Neurotic Affections accompanying Joint Lesions, Jacoby, 1884, J. Nerv. and Ment. Dis., ix., 79.

[1] Centralblatt f. Chirurgie, No. 35, 1884.

Reports of Societies.

ADJOURNED CONFERENCE OF STATE BOARDS OF HEALTH AT WASHINGTON, D. C., DECEMBER 10, 11, 12, 1884.[2]

THE Conference of State Boards of Health, adjourned from a previous meeting held at St. Louis in October last, met at the Ebbitt House in Washington, D. C., on Wednesday, December 10th, at ten A. M. The call for this meeting included an invitation extended to the principal local boards of the United States and Canada.

THE ROLL-CALL.

The following States and cities were represented and answered the roll-call: —

Louisiana: S. R. Oliphant, S. S. Herrick, New Orleans. • Indiana: Dr. E. S. Elder, Secretary of the State Board, Indianapolis. Illinois: Dr. J. H. Rauch, of Springfield, Secretary of the State Board. Georgia: J. T. McFarland, Savannah. Connecticut: C. A. Lindsley, New Haven. Kentucky: Dr. J. N. McCormick, Secretary of the State Board; W. L. Breyfogle, Louisville. Michigan: H. B. Baker. West Virginia: James E. Reeves, President of the American Public Health Association and Secretary of the State Board of Health; Dr. T. A. Harris, Parkersburg, President of the State Board of Health. Wisconsin: J. T. Reeve, Secretary of State Board of Health. District of Columbia: Dr. Smith Townshend, Health Officer of the District and chairman of the local committee. Texas: William Perry, Galveston. Missouri: J. W. Jackson, Kansas City; J. C. Hearne, Hannibal; Joseph Spiegelhalter, Health Officer of St. Louis, and Dr. Outtan, of the St. Louis Board of Health. Pennsylvania: Crosby Gray, Pittsburg; E. W. Germer, Erie. Ohio: C. W. Rowland, Cincinnati, and A. H. Iddings, Dayton. North Carolina: Dr. Thomas F. Wood, Wilmington, Secretary of State Board of Health. New York: Dr. Joseph H. Raymond, Health Officer of Brooklyn; A. C. Mercer, Syracuse; Erastus Brooks, first Vice-President of the American Public Health Association, and also Chairman of the Conference of the State Boards and member of the State Board of Health, and Dr. W. M. Smith, New York City. New Jersey: Dr. Ezra M. Hunt, Secretary of State Board of Health. New Hampshire: Dr. Irving A. Watson, Concord, Secretary of the American Public Health Association, and also Secretary of the State Board of Health. Maryland: Dr. Charles W. Chancellor, Secretary of the State Board; Dr. James A. Stuart, Baltimore. Massachusetts: Dr. Henry P. Walcott, Chairman of Health Department; Dr. S. W. Abbott, Health Officer; Surgeon-General Holt, of Cambridge, and Dr. S. H. Durgin, of Boston, Health Officer. South Carolina: Dr. Horlbeck, Health Officer of Charleston, and J. Ford Prioleau. Canada: A. B. LaRoque, Montreal; Dr. Frederick Montizambert, Quebec, delegate from the Provincial Government of Ottawa; Dr. Covernton, of Toronto, representing the Government of the Dominion of Canada. Tennessee: G. B. Thornton, Memphis; Dr. J. B. Lindsley, of Nashville, Treasurer of the American Public Health Association, and Secretary of the State Board; Dr. Charles Mitchell, of Nashville, member of the State Board. Minnesota: Prof. Charles

[2] Specially reported for the JOURNAL

Hewitt, of Red Wing, Secretary of the State Board. Michigan: Dr. H. B. Baker, Secretary of State Board of Health. Richmond, Va., Dr. J. G. Cabell. Toronto, Dr. Cunniff.

THE PRESIDENT'S ADDRESS.

The President, HON. ERASTUS BROOKS, of New York, opened the meeting by an address stating the objects of the Conference: —

First. To hear reports from States and cities as to present sanitary conditions.

Second. To consider the best measures for the prevention of cholera in the United States and Canada.

"We regret," he said, after referring at length to the importance of preparing to meet the cholera, "to read the statement of Dr. Hamilton to the Supervisor-General of the Marine Hospital, made far in advance of the present meeting of this Conference, that 'the health boards here in session in Washington said all there was to say at St. Louis.' We also regret Dr. Hamilton's statement that the more recent Conference of 'sanitarians in New York City decided that they wanted no more governmental aid than is now being provided.' Such was not the judgment, conclusions, or record of either of the two bodies in session at St. Louis in the month of October. Nor was it the judgment of the Conference of sanitarians held two weeks since in the city of New York. Upon the contrary, these three bodies, composed of practical sanitarians, expressed the opinion that more and better work could be done by the government to arrest, and if possible prevent, the appearance of a fatal calamity than had hitherto been accomplished. While it may be self-conclusive to a single officer of the government that his own work is complete, and that all other advice, knowledge, and assistance is uncalled for or unnecessary, it is the judgment of your presiding officer, and he presumes of this Conference upon the best information they can obtain, that in a crisis like the present a more enlarged, liberal, and comprehensive system of health administration is necessary for the country than is at the present time provided for by Congress or by one officer or department of the government."

APPOINTMENT OF COMMITTEES.

On motion of DR. WALCOTT, of Massachusetts, the following committees were appointed: —

On Federal Legislation. Drs. Walcott, of Massachusetts, W. Smith, of New York, Rauch, of Illinois, Herrick, of Lousiana, Baker, of Michigan, Brooks, of New York, and McCormack, of Kentucky.

This committee was subsequently enlarged by the addition of the following: Drs. Hearne, of Missouri, Wood, of North Carolina, Chancellor, of Maryland, Elder, of Indiana, and Thornton, of Tennessee.

On Matters pertaining to the Hygiene of States. Drs. Watson, of New Hampshire, Hunt, of New Jersey, Hewitt, of Minnesota, Thornton, of Tennessee, Hearne, of Missouri, and Covernton, of Canada.

On Municipal Hygiene. Drs. Raymond, of Brooklyn, McFarland, of Savannah, Durgin, of Boston, Breyfogle, of Louisville, Montizambert, of Quebec, Spiegelhalter, of St. Louis, and Mr. C. W. Rowland, of Cincinnati.

The Chairman proposed that the Committee on Federal Legislation should consider the subject of reduction of postage on all documents relative to public health issued by State authorities.

Several papers were then presented by representatives of Indiana, Kentucky, and New York Boards of Health, and, with the exception of the latter, were referred to the Committee on State Action.

DR. WM. SMITH, Quarantine Officer of the port of New York, read a paper on

THE FAILURE OF MARITIME SANITARY REGULATIONS.

Dr. Smith gave a summary of the statistics of immigration from 1819 to the present year. He stated clearly the relations of the subject of immigration to the introduction of infectious diseases, illustrating the liability of the immigrant to be the medium of such communication in consequence of his habits at his departure, during the voyage, and at his arrival. The imperfection of present regulations was shown, and the comparative value of consular bills of bills of health as contrasted with those of local authorities. Dr. Smith emphasized in strong terms the need of better trained and experienced medical officers on board transatlantic steamers, who should supervise the sanitary condition of ships, their cargoes, crews, and passengers, and all matters pertaining to the hygiene of sea-going vessels. He also cited instances illustrating the want of intelligence and experience on the part of such officers, particularly in regard to the diagnosis of infectious diseases, isolation, disinfection, and ventilation.

DR. COVERNTON, of Toronto, stated that the present epidemic of small-pox in Canada was traced to infection from an immigrant boy.

Before the adjournment of the morning session an invitation was announced from Surgeon John S. Billings to visit the Army Medical Museum, where specimens of the comma bacillus and the bacillus tuberculosis were on exhibition.

AT THE EXECUTIVE MANSION.

During the recess at noon the members of the Conference went to the Executive Mansion, and were introduced to President Arthur and also to Secretary Frelinghuysen by Medical Director Gihon, of the Navy.

CHAIRMAN BROOKS briefly stated to the President the objects of the Conference, and commended his reference to the subject of cholera in the annual message, and urged the necessity of legislation.

PRESIDENT ARTHUR replied expressing his hearty sympathy with the objects of the Conference, and also stated that the matter in hand was already under consideration by the Secretaries of State and of the Treasury. He also inquired whether it were desirable to present the subject for the consideration of any congressional committee.

DISINFECTANTS.

At the afternoon session the Chairman of the Committee on Disinfectants (appointed at St. Louis in October), SURGEON STERNBERG, made a report of the progress of the Committee.

The Committee was divided into sub-committees on experimental research, the practical application of disinfectants, and the literature of the subject.

The experimental work, in charge of Dr. Sternberg, is conducted at the Biological Laboratory of the Johns Hopkins University at Baltimore. The work at present being confined to the examination of commercial disinfectants, the first test employed is a given quantity of beef tea, a definite amount of each disinfectant being used in the performance of the test, after which it is

proposed to employ well-recognized disease germs, such as the bacillus of anthrax, etc. Many of the popular disinfectants have already been tested, such as Squibb's coal-tar disinfectant, girondin, phenol, Williamson's disinfectant, Platt's chlorides, Labarraque's solution, etc. Dr. Sternberg attributed to the latter officinal preparation a higher disinfectant or germicide potency than has ordinarily been accredited to it.

DR. RAYMOND gave a brief report on the practical application of the subject.

DR. ROHÉ reported that $425 had been contributed by State and local Boards for the work of the Committee, and that $1000 was necessary to defray its expenses.

INTERNATIONAL COMMITTEE.

DR. REEVES, of West Virginia, offered a resolution that measures be taken for the formation of an international committee, composed of representatives from each maritime nation, who should take cognizance of all matters relating to shipping and the water-carriage of persons and cargoes.

This resolution was referred to the Committee on Federal Legislation.

The remainder of the afternoon session and most of the morning of Thursday was occupied in hearing the

REPORTS OF STATE AND LOCAL HEALTH OFFICERS,

some thirty-five or more in number, as to the measures taken and in progress for the purpose of resisting the approach of cholera. The majority of the reports were verbal, and evinced a deep interest on the part of health authorities throughout the country in the objects of the Conference. Some of the reports consumed much time upon irrelevant matters, and others deserve special notice for points of excellence embraced in them.

DR. RAUCH, of Illinois, reported that the State Board had received returns from 420 towns and villages as to sanitary condition, and said that a systematic survey of the State would be made, and efforts also would be made to remedy all defects in statutes relative to public health. He also said, "We propose to place Illinois in a condition to take care of itself if the general government does not do its duty.

DR. MCCORMACK, of Kentucky, reported that a sanitary survey of the State had already been made.

The condition of Boston and Cambridge was clearly stated by DRS. DURGIN and HOLT, of those cities.

DR. REEVES, of Wheeling, West Va., reported the condition of that city, especially with reference to the danger incident to pollution of its water supply.

DR. RAYMOND, of Brooklyn, N. Y., presented a carefully prepared report as to the condition of that city, and the measures which had been taken there for the prevention of cholera. In summing up his report certain definite measures were advised, as follows: —

(1.) The abolition of pump wells in cities.

(2.) The abolition of privy vaults wherever sewer connections could be made.

(3.) The filling and disinfection of stagnant ponds or pools.

(4.) The supervision of sewers and plumbing.

(5.) Inspection of tenement-houses.

(6.) Inspection of food supply, especially of milk, meat, and vegetables.

(7.) Removal of garbage and kitchen refuse.

(8.) Garbage not to be used for filling vacant lots.

(9.) The attention of all public institutions to be directed to the necessity of cleanliness.

(10.) The necessity of taking every possible measure for the prevention of cholera, and of giving immediate notice to health authorities in case of local outbreaks.

THE CUMBERLAND EPIDEMIC.

A special report was read by DR. MCCORMACK, of Kentucky, embracing the result of an investigation by Dr. J. H. Carson in relation to the recent epidemic which had prevailed in the eastern or Cumberland region of that State. He concluded that the disease was epidemic dysentery. That its cause was not a mineral poison, but rather a specific malarial poison due to drinking the water of stagnant pools in a dry season. Public accounts had been greatly exaggerated, and the deaths in Kentucky had not been more than two hundred and twenty-five.

DR. ARBEELY, a native Syrian physician, from Damascus, detailed his experience with cholera at Beyrout and Damascus, and attributed much of the fatality to intemperate habits.

At this point a telegram was read from an importer of rags to the effect that there was no instance on record of cholera infection through the medium of rags.

MR C. E. O'HARA, of the Seymour paper company, stated that they employed two hundred hands in sorting rags at their factory at Windsor Locks in Conn., and no case of cholera had occurred among them in thirty years.

REPORTS OF COMMITTEES ON STATE AND MUNICIPAL ACTION.

The Committee on State Action then reported that the laws of the States are so diverse that it was difficult to formulate a system of uniform action. Each State should be fully advised of the conditions prevailing at the ports of neighboring States through which disease might gain admission to its own cities. In reference to interstate communication it is essential that officers of State and Federal Boards in adjacent States should promptly notify each other of any case of cholera occurring in its own domain.

It is also essential that local boards shall determine in advance how the first cases shall be cared for, so as not to lose valuable time and allow the disease to gain a foothold. It is the judgment of the committee that the time has come when the State Health Boards should be recognized in some national form as having authority to indicate what sanitary measures are necessary, and secure the same through these departments of the government under which they would naturally fall.

The Committee on Municipal Action presented a report embracing the ten propositions already stated in Dr. Raymond's report upon the sanitary condition of Brooklyn, together with an eleventh proposition of a more general nature, urging upon municipalities the importance of prompt measures for the amelioration of all unsanitary conditions.

DR. BAKER, of Michigan, moved that the legislatures of States should be recommended to enact bills providing for contingent funds to be used in the event of an outbreak of cholera. This resolution was referred to the Committee on State Action, and afterward incorporated in their report by vote of the Conference.

REPORT OF COMMITTEE ON FEDERAL RELATIONS AND LEGISLATION.

The Conference reassembled at 4 P. M., and after preliminary discussion on the publication of the pro-

ceedings of the Conference. DR. WALCOTT, of Massachusetts, made a partial report from the Committee on Federal Relations and Legislation, that the draft of a bill had been prepared which needed more consideration and examination, and commented on various sections. He thought the collection of foreign statistics should be by consular officers through the State Department.

DR. CHANCELLOR, of Maryland, offered the following resolution: "That so much of the report on federal legislation be referred back to the committee, and the committee be increased by five, and the committee be directed to urge on Congress a bill providing for the organization of a health department of the United States.

The principal features of the report on federal legislation as finally adopted were published and commented on in the JOURNAL'S editorial columns, December 18th.

DR. SMITH, of New York, from the Committee on Legislation, offered a resolution, which was adopted, providing an international health committee, to be of three members appointed by the Secretary of State, who shall correspond with foreign health officials, and that a conference of Boards of all maritime nations be asked for by the President of the United States, which conference shall adopt rules for carrying and inspection of ships and passengers.

The Conference then adjourned, at 5.30 P. M., to meet at the call of the President.[1]

AMERICAN PUBLIC HEALTH ASSOCIATION.

MEETING OF THE EXECUTIVE COMMITTEE.

The Executive Committee of the American Public Health Association, which was appointed at the annual meeting held in St. Louis, in October last, met December 11th at the Ebbitt House, Washington, Dr. Reeves, President of the Association, presiding, and Dr. Irving A. Walton, secretary. Eleven members of the committee were present.

Arrangements were completed for the holding of the thirteenth annual meeting of the Association at Washington the second Tuesday in December, 1885, and a local committee was appointed, with Dr. Smith Townshend as chairman, and J. Cooper McGinn, Esq., as secretary.

Subjects were selected for competition for the Lomb Prize Essays as follows: (1) Healthy Homes and Food for Working Classes; (2) Sanitary Necessities and Conditions of School Life; (3) Disinfectants; (4) Life-Saving Appliances in Certain Occupations. The full text of the subjects as they are to be treated will be published at an early date. These essays are for prizes of $500 each, and the competition is not confined to members of the Association, but is open to all citizens of the United States.

The Committee on Disinfectants, consisting of Major George M. Sternberg, U. S. A., Dr. J. H. Raymond, Brooklyn, and Dr. George H. Rohé, of Baltimore, was authorized to prepare a preliminary report as soon as possible for publication, in view of the anticipated advent of the cholera next year. It was decided to incorporate the Association under the United States laws relating to the District of Columbia. The committee adjourned to meet in New Orleans next April.

[1] Notwithstanding especial care to secure correctness in our report of the Conference of State Boards of Health at St Louis, statements were attributed to Dr. J. H. Rauch, as he assures us, incorrectly. Our readers are referred to his Address as subsequently published in pamphlet form. — ED.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

C. B. NANCREDE, M. D., RECORDER.

THURSDAY evening, November 13, 1884. The President, DR. SHAKESPEARE, in the chair.

SOME STUDIES ON THE MICROCOCCUS OF THE PLEURO-PNEUMONIA OF CATTLE.

By THOMAS D. DUNN, M. D.

On September 25, 1883, through the kindness of Dr. Bridge, Assistant State Veterinary Surgeon, and Mr. Thomas Edge, Commissioner of Agriculture, of Pennsylvania, I was invited to be present at an autopsy on some cows suffering from pleuro-pneumonia. Their condition being such that recovery was deemed impossible, Mr. Edge ordered them killed. As a description of the macroscopic and microscopic conditions of the lungs was read before this Society a year ago, and as it would have no special bearing on the bacterian nature of the disease, a detailed account will be omitted. Suffice it to say the lung is completely solidified, the air cells filled with effused blood, serum, and lymph, which usually extends into the small bronchial tubes. Portions of the consolidated lung and blood from the heart were placed in a bottle which had been thoroughly cleansed, and the bottle closed with a ground-glass stopper. These were examined microscopically by Dr. George Martin and myself, and were found swarming with germs — micrococci. These little bodies, although seen distinctly with a power of 670 diameters, are best studied with a power of 1000. They are colorless, globular, or oval in form, outline regular, and refractive power notable. The Brownian movement is marked; this is a tremulous motion not peculiar to micrococci. It is common to inorganic particles as well as minute vegetable and animal organisms. They do not seem to move in a manifest manner independent of the currents of liquids in which they exist. They measure from a third to a half micromillimetre or from $\frac{1}{6000}$ to $\frac{1}{8000}$ inch in diameter. They are not dissolved by ether, alkalies, or acids, and take the staining of aniline colors slowly. I have, however, succeeded in staining them by first treating with aqua ammonia, then with staining fluid, and afterwards washing with a weak solution of nitric acid. They have recently been more satisfactorily stained by a two per cent. alcoholic solution of methyl violet. They multiply in nitrogenous culture fluids at ordinary temperatures by millions. They are generally separate, though sometimes united in pairs and little cellular colonies forming distinct zoögloea. From the fact of their being occasionally seen in pairs it is reasonable to suppose that multiplication is taking place. They resist putrefaction, for the cultivation tubes started September 26th swarmed with them two months later. When the nitrogenous material is exhausted their growth is stopped, and they remain in a latent state, as it were, until additional food is given, or they are transplanted into fresh fluid. After the tubes stand a few weeks, the membrane formed on the top sinks to the bottom and the liquid above clears. That they are not dead, but only in a state of repose, is evident from the fact that they multiply anew when inoculations are made from them, but less rapidly than inoculations from more recent cultures. Dr. J. J. Woodward, U. S. A., presented at a meeting of this Society in 1861 a pleuro-pneumonic lung, and mentioned certain "spores of fungi" found in both the healthy and diseased lung, but he did not describe

them. These "spores of fungi" are probably the micrococci under consideration. Aside from this I have not found any record of them, but unfortunately I have not had access to the literature pertaining to this subject.

The following culture experiments were made with the serum virus taken from the diseased lung: The culture fluid consisted of extract of fresh beef, made by chopping it fine and pouring over it hot water. After maceration the juice was expressed and the extract boiled for several minutes. It was then filtered and again boiled to thoroughly destroy all germs. It was then placed in culture tubes which had been washed in a solution of corrosive sublimate, and afterwards boiled. The tubes were closed by absorbing cotton which was sterilized with corrosive sublimate and the application of dry heat. After the culture fluid in the tubes had cooled a minute quantity of the serum was introduced by a small knife whose blade had been heated in a spirit lamp. The tubes were then placed where the temperature ranged from 90° F. to 120° F. On examination of these tubes on the 28th the liquid was found turbid, a thin membrane formed over the surface, and there was a slight deposit. Under the microscope thousands of micrococci were seen.

From this cultivation a second was made and after standing forty-eight hours the surface membrane, cloudiness of fluid, and slight deposit appeared, and myriads of micrococci were found. From this a third generation was started in which appeared a few bacilli — the first discovered.

They are very active colorless bodies, measuring from three to five micromillimetrés in their long diameters, and from one third to one half in their short. Their movements are at times rapid, again they are in a state of repose. Sometimes one will remain a long time motionless, then suddenly dart across the field of the microscope, setting many of its fellows in motion, who seem to catch the spirit of the active bacillus. At one time they advance with the rapidity of an arrow, then retreat or describe circular lines. It was noticed in those cultivations in which the bacilli were found the surface membrane was thicker and more tenacious. In cultivations conducted at a lower temperature the development of micrococci was not so rapid. Fearing that some atmospheric germs might have been introduced with the culture other cultivations were begun from the second generation, in which no bacilli were found. The culture fluid was boiled at intervals to kill germs that might develop from spores not destroyed by previous boilings; and as a further test non-inoculated tubes were placed by their side. In forty-eight hours the former were swarming with both bacilli and micrococci, while the non-inoculated ones remained clear for ten days. These subsequently developed germs after inoculation.

A second series of observations was commenced with fresh virus obtained October 4th. The first and second cultures were pure, but in the third bacilli appeared, and in the fourth they had greatly increased.

It is difficult to explain the relation these forms bear to each other, as to whether the bacilli are organisms developed from the micrococci — the latter being in a sporal stage of their growth — our investigations will not justify a positive answer. Koch has determined that the bacilli of anthrax develop veritable spores and they in turn develop bacilli. Several other observers hold this view, and according to the investigations of Koch, Cohn, and Pasteur upon the development of bacteria it is probable that the spores of bacilli and other bacteria are identical with micrococci in form, aspect, and behavior toward chemicals. In those diseases in which certain bacilli and micrococci are found to be the virus, it is impossible to distinguish them from harmless ones by their microscopical appearance, that is, a specific disease germ can only be determined by its effects on living organisms. The micrococcus of pleuro-pneumonia, so far as present observations go, is identical with that of diphtheria, chicken cholera, and the recently discovered micrococcus of scarlet fever. It is further found that the germ of virulent matter rendered harmless by attenuation does not differ microscopically from the unattenuated which destroys life. I have made no inoculations on animals with the micrococcus of pleuro-pneumonia, but a few cows have been inoculated by others without any reference to a special virus or cultivation of the germ, and the disease was transmitted. However, several experiments have been made in view of destroying the germ, the results of which I will briefly state: A tube containing cultivated micrococci was boiled, and from it a second was inoculated. In thirty-six hours the tube contained many micrococci showing that the germ is not destroyed at 212° F. A culture fluid to which had been added ten per cent. of alcohol was then inoculated. No micrococci had developed a week later. One and one-half per cent. of benzoic acid with borax to dissolve was then added to a culture fluid. Neither micrococci nor bacilli had appeared six weeks afterward. Another culture was started to which was added corrosive sublimate in the proportion of one half grain to the ounce. In three weeks there were no traces of germ life. To test the influence of cold on these organisms a tube containing cultivated germs was frozen, and from this sterilized liquids were inoculated. In forty-eight hours they contained myriads of micrococci and a few bacilli. A portion of diseased lung was frozen, and inoculations from this grew in about the same time. It was afterwards found that the cotton which had been sterilized by heat and corrosive sublimate had been inadvertently exposed to old cultivations and decomposing organic substances, and it is possible that bacteria were introduced by it. When I repeated these experiments it was found that while inoculations from non-frozen virus develop micrococci in a few hours, it requires several days for sowings from frozen specimens to grow in the same culture fluid and under the same conditions of temperature. Whether they were not exposed to cold long enough to destroy the germs or the influence is only sufficient to render them inactive, further investigations will be required to determine. It is my impression that cold will check the spread of the contagion, but not destroy it altogether, and that when the disease once attacks an animal cold will have no influence upon it, though it may prevent the spread of the infection to others in the same herd. The power of medicinal agents to control the disease seems to be very feeble. It would appear that corrosive sublimate, alcohol, and benzoic acid arrest the growth of these germs, but whether doses sufficient to destroy them can be administered without endangering life our veterinary surgeons must determine.

(To be concluded.)

PHILADELPHIA COUNTY MEDICAL SOCIETY.

REPORTED BY G. BELTON MASSEY, M. D.

NOVEMBER 12, 1884.

DR. WM. S. FORBES read a paper on

CUTTING ACCESSORY TENDONS OF EXTENSOR COMMUNIS DIGITORUM.[1]

DR. JOHN B. ROBERTS, in opening the discussion, said: I have been greatly interested in hearing the account of the operation given. Since student days it has been in my mind, but I never happened to be called on to perform it. It was then taught as advisable and looked on as justifiable, and I now know that this suggestion must have come from Dr. Forbes. I have often tried to figure out a reason for these slips, and the disposition has been to regard them as analogues of structures found in lower animals, as Dr. Forbes holds. We have special extensors for the index and little fingers, and I have seen, on rare occasions, a special extensor for the middle finger, but I have never heard of a special extensor for the ring-finger.

The remarks on white fibrous tissue are interesting. The actions of this tissue are most important in holding the various organs of the body in place. It is at times, however, a surgical disadvantage, as, for instance, in the case of abscesses, where the pus being confined by the density of this tissue does harm by more or less extensive burrowing. In binding down tumors and thus causing pain by pressure upon the nerves, and in causing suffocative pressure in bronchocele, it also demands operative interference. We can often relieve pain and asphyxia caused by pressure of this tissue by free incisions made subcutaneously or openly.

I shall be glad to hear further as to the time-test of these cases; and also whether the uncut tendon is made more pliable by actual stretching after long months of piano practice. It would seem to me that there was no stretching of this tendon possible, but that practice caused only a lateral movement of the contiguous tendons and thus permitted a greater freedom of motion in the finger. If this increased motion is possible, then how much time is gained by the operation? The operation itself must be a very simple one, and there should be very little danger of the tendinous bands uniting again.

DR. H. A. SLOCUM: As there will probably be many ladies undergoing this operation, a pertinent question is, How much of a scar does it leave?

DR. DE FOREST WILLARD: Some years since I heard that this operation had been performed for pianists, but did not know the exact details of results desired until this evening. The only danger would be that too deep a cut might divide fibres of the dorsal interossei, muscles which are of especial service to the musician, since extension and flexion of the first phalanx are important actions. These accessory tendons, as seen in the dissecting-room, are sometimes variable in their position, but the operation seems simple, and from the excellent results which I am accustomed to secure by subcutaneous divisions of fasciæ and tendons, I am inclined to favor the procedure of the lecturer.

DR. SHAKESPEARE: In connection with Dr. Forbes' incidental reference to Wickersheimer's preservative fluid, I would like to ask him if he has had any success in its use. I have myself made trial of it, as made here, after the formula published by the Government, and have, in every instance, failed to get good results when using the fluid as an injection. I do not know of any successful results out of Germany, and do know of many failures. The suggestion has been made that there is a secret yet held back by the inventor. On the contrary, with the fluid for immersion, moderately successful results have not been very difficult to obtain.

DR. H. H. SMITH: This operation, and the advantages to be gained by a free use of this finger, are both altogether new to me. As Professor Zeckwehr is present, I hope he will state its value to the pupil, and whether it is better than the ordinary ring and elastic cords used by beginners.

DR. O'HARA: I think it odd that no mention has been made of females being operated on for this condition. Is it possible that a vestigial condition remains with man, and woman does not share it? There are so many more women than men playing upon the piano, it would appear that the ring finger was freer with them than with men.

PROFESSOR ZECKWEHR, speaking by request of the Chair, said: Pianists find great difficulty in performing, owing to their inability to extend the ring-finger. It takes a long time to remedy the difficulty to any extent by practice. With the palm down it can be raised but a short distance. The natural strength of this finger is not so great as that of the others. My pupil, on whom Dr. Forbes operated, gained in a quarter of an hour what I had not accomplished by twenty-five years' practice; before the operation he could raise the finger a quarter of an inch — after it, an inch and a quarter, a gain of a whole inch in a few minutes. I surely think the time gained a great advantage to piano pupils.

DR. CARL SEILER: I am not a practical musician, but would ask if there was a great improvement in touch to be gained by this operation. I have noticed in what might be called one school of musicians, that the motion from the fingers was taught, while another taught motion from the wrist. The question is æsthetic: Can we gain a better touch by severing these bonds?

PROFESSOR ZECKWEHR: I never heard of the method of playing from the wrist. All musicians play from the knuckle-joints, keeping perfectly quiet wrists.

DR. SEILER: Many musicians play from the wrist, and by that motion harshness is done away with and greater flexibility attained.

DR. BLACKWOOD: In organ-playing lateral movement of the fingers is necessary as well as extension. Does the operation increase the abduction and adduction movements? Experience has shown me the advantage of such mobility, particularly when the same hand is occupied in playing chords on two different manuals at one time, as, for instance, the 1st, 3d, and 5th on the great and choir.

DR. FORBES, in closing the discussion, said: In regard to the scar, I examined one of the patients to-day, and the scar could be scarcely seen. It should be distinctly understood that the cut necessary for the operation is but little longer than the width of a match. By means of a blunt knife to cut the tendon, and making the tendon tense, nothing else need be cut. From the first I performed this operation with a tenotome, but I received a letter from a gentleman at a distance, who said he had cut his own tendons with a razor. Dr. Willard spoke of cutting the dorsal interosseous muscle. If he does not carry the incision beneath the investing

[1] See page 601 of this number of the JOURNAL.

sheath he will not touch the muscle. You *may* cut the nerve to be found here next to the skin, but a dull knife avoids this by *shoving* the nerve before it. Dr. Allen spoke of encountering membranous bands on the tendons. I would cut tendons and bands at once. The patient should play at once on the piano after the operation, and if any bands remain they should be cut by reintroducing the knife. Both tendons are cut at one sitting. Dr. O'Hara was struck by the absence of the mention of women, considering their great activity as pianists. In fact, one patient alluded to was a woman. It may be that their joints partake of the greater mobility of their nature, and are less rigid. I have certainly found that these ligaments do not obstruct their playing on the piano so much as in men.

If the principle in music depends on the equality of sound, and these bands interfere with the development of this equality, I see no reason why they should not be severed.

This operation, of course, cannot lessen lateral motion.

As to elongation of tendons, this can be only by nutritive change. There is no elasticity in white fibrous tissue; sometimes it appears to elongate, but this is merely by lateral movement of fibres. This rigidity is the greatest value of white fibrous tissue.

In regard to Wickerscheimer's fluid, I have had a great deal of difficulty in its use, and thought he used some other ingredient in that imported, not mentioned when he sold his secret to the naval officers representing the United States Government. If, however, it is slowly injected in the preparation previously immersed in water, and then immersed in the prepared fluid and kept entirely immersed, sometimes it does well. The best quality of glycerine should be used.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Stated Meeting held December 6, 1884. Dr. Thomas E. Satterthwaite in the chair.

Dr. E. L. Partridge opened the discussion upon

ERYSIPELAS,

the subject of the evening, as follows: Erysipelas, like the exanthemata, is infectious and epidemic; it has a period of incubation, prodromata, and a definite course, but on the other hand it is less contagious than any exanthem, and recurs with greater frequency, in these points resembling diphtheria and septicæmia. It is not interchangeable with the exanthemata or diphtheria, but may possibly be with septicæmia and puerperal fever, and perhaps with typhus. In 1838 erysipelas and typhus fever had existed together in an English hospital, and apparently were related. The relation of puerperal fever may perhaps be shown by the not uncommon case of the puerperal woman, who, contracting septicæmia, dies soon after childbirth, while the child dies of a distinctly phlegmonous erysipelas. It is probably never of neurotic origin, nor is it always necessary for it to be preceded by traumatism; there is undoubtedly an idiopathic form in which the poison gains access, in all probability through the respiratory tract. Of this latter view, however, we have no absolute proof, and the view which insists upon the necessity of an abrasion is therefore entitled to respect. The disease is probably spread through the lymphatics, and it has been shown by Billroth that it is possible for it to be thus conveyed to the pleura or meninges, and we may have inflammation of these tissues as a complicating factor in the disease. A predisposing cause may probably be found in a sluggish condition of wounded parts, as shown by flabby grayish granulation and scanty secretion, as well as in constitutional disease which impairs the venous return, as in disease of the liver, kidney, and heart.

The mortality of erysipelas was found to be greater in the winter than in the summer, being increased by contaminated atmosphere; to be greater in the very young or very old than in the middle aged; greater if the disease arose in the vicinity of wounds, and especially greater if there was any coexisting disease of heart or kidneys.

The best treatment was probably to rely upon general support and stimulation and to treat constitutional symptoms as they arose. A saline cathartic may be given with local depletion to relieve the tension when great, and quinine when the temperature runs high. It is very doubtful whether specific treatment or so-called abortive measures are of any use in limiting the disease.

Dr. D. B. St. John Roosa was inclined to think, possibly from his surgical education, that erysipelas is always traumatic in its origin. He did not believe that erysipelas could be generated on a sound skin. He believed that every eczematous spot and every lesion of the mucous membrane in persons in hospital life, or in delicate persons everywhere, should be, if possible, healed. He considered the poor ventilation common during the winter months as one of the causes of the prevalence of the disease during that season rather than the low temperature. In his experience cold did not produce the disease, but he thought he traumatism of a high wind blowing upon the face a very efficient cause. He considered the antipyretic use of quinine as useless and dangerous; that the dilatation that precedes the contraction of the blood-vessels by quinine does much harm. He recalled a case in which the temperature fell from 104° F. to below normal under no other drug than the tincture of the chloride of iron. He would use no medicine except a purgative, when necessary, but would rely upon good air, good food, stimulation, and attention to the comfort of the patient; locally he would use the lead and opium wash. The most disagreeable treatment that he has found is that with white paint.

Dr. W. O. Moore said that erysipelas was rarely a cause of eye trouble, or at least the connection was not, as a rule, made out, although we do meet with two forms of intra-ocular disease directly traceable to the poison of erysipelas, especially when facial. The first is a thrombosis of the retinal vessels, due to a direct propagation of the inflammation along the walls of the vessels, causing finally an obliteration of their calibre, or it may also be due in part to compression of the central retinal artery by the products of inflammation around the optic nerve and orbit. It is rare that one has the opportunity of seeing these cases during the acute erysipelatous period. "Since Knapp's paper, read in the early part of this year, I have anxiously looked for such a case, and at last, on August 6th, I saw one with the following history: H. C., male, aged thirty-nine, had received a slight cut, while being

shaved, on the right side of face. This soon developed into the ordinary form of acute erysipelas, in three days spreading over the entire face, though most marked upon the right side. The eyelids were moderately swollen, but no protrusion of the eye was noticed. The erysipelas did not yield promptly. Ten days after it commenced, on opening his eyelids, the patient noticed that his vision was impaired, although to outward appearances the eye was normal. On the fourteenth day I saw him, and on ophthalmoscopic examination found much the same appearances in the fundus as seen in the Coggin's and Knapp cases, namely: right eye, media clear; optic disk, outline clear, but substance milky, as was also the retina near the nerve; the vessels were distorted and tortuous; one small hæmorrhage into the retina towards the periphery of the fundus; the arteries were smaller than normal, and carried less blood; vision $\frac{1}{200}$. One week later the eyelids were well open; eye clear and bright; pupil moderately dilated; vision same as before; optic nerve more white; retina less milky; vessels smaller, looking as though no blood entered them; hæmorrhage previously noticed absorbing; one of the vessels looks like a white cord. In two months the patient was totally blind in the right eye, the other remaining in good condition. The only change in fundus appearance is in the optic nerve, which is white and atrophic, with only a few vessels containing any blood, the others being apparently empty. The second picture we see is the last stage of the disease, where the patient comes, months after the erpsipelas, with the ordinary white atrophy of the optic nerve. In looking over records of atrophy where a probable cause is given I find out of 200 cases only one where erysipelas was supposed to have a bearing. This percentage is, I think, too high."

Dr. David Coggin, of Salem, Mass., in the Transactions of the American Ophthalmological Society, 1879, reports a case of Ischæmia of Retinal Vessels of both Eyes after Facial Erysipelas. His idea was that the erysipelatous inflammation was propagated under the capsule to the optic nerve, where it exercised enough pressure to retard the circulation in the retinal vessels, and thus caused thrombus, or by thrombosis due to extension of the inflammation to the vessels themselves. The patient never recovered his vision.

Dr. A. Carl, in Zeheuder's *Monatsblättern für Augenheilkunde*, April, 1884, reports a case of Blindness from Erysipelas. Erysipelas began at the tip of the nose, then extended to the face. Fifteen days from the beginning of the disease R. E. became blind, with protrusion and immobility of the globe. Dr. Carl saw the patient seven weeks after the blindness came on, and found the media clear; V. = O; optic nerve outlines clear; disk milky and opaque; retinal vessels reduced in number, partially filled with blood, and partly reduced to white cords. Four months after blindness appeared complete atrophy of the optic nerve was noticed, and some of the arteries had entirely disappeared. The L. E. was in a normal state.

Dr. H. Knapp, in a paper read before the New York County Medical Society, March 24, 1884, says: First. Blindness was produced by compression of the central retinal vessels and thrombosis of the retinal veins. Second. No neuro-retinitis seen by the ophthalmoscope, but the successive stages of a thrombosis. Third. The white segments in the veins and arteries were whites thrombi, and not hypertrophy of the walls of the vessel.

DR. SENECA D. POWELL considered that the progress of antiseptic surgery during the past few years had done much to limit the spread of erysipelas. He did not consider that idiopathic erysipelas, or erysipelas without traumatism, was of uncommon occurrence, especially upon the face. It differed from traumatic varieties in not being contagious. The speaker had seen a case where erysipelas had set in after amputation of the breast, beginning about the wound and creeping down the left arm, returning up the arm, around the neck, down the other arm, then back across the neck, and again down the left arm, where it ceased. He was in the habit, if the patient had a full bounding pulse, of giving liq. ammon. acetat. ʒi.–ʒiv., spts. æth. nit. ʒi.–ʒiv., and tr. aconit. rad., gtt. i.–iij., q. 2 h. He used iron only in the idiopathic variety, employing a tincture made from the black oxide of iron three parts, hydrochloric acid ten parts, and alcohol thirty parts, with no water, instead of the officinal tincture, which contains both nitric acid and water. When in either variety the patient began to show signs of debility he always gives alcohol freely. Locally he considered the lead and opium wash applied hot, and the compresses covered with oiled silk, or, if this did not relieve the inflammation, heat applied by means of the hot bran bags, as the best applications.

DR. C. A. VON RAMDOHR said that in his opinion erysipelas depended upon a peculiar coccus which, if introduced into the circulation of a puerperal woman, might give rise to erysipelas, puerperal fever, or peritonitis, and therefore prophylaxis was a very important matter. The question of how long a physician should wait after seeing a case of septicæmia, pyæmia, or erysipelas, before attending a confinement case, could be answered by the remark, "If a physician knows what disinfection is he may go at once, if not he should give up attendance altogether." He made it a rule whenever he had seen a case of erysipelas to make a complete change of clothing, take an entire bath, and to particularly disinfect his beard, hair, and hands.

After this process he had attended confinements without any unhappy result. He made it a rule, however, not to examine very frequently after making out the presentation, but put the hand into the vagina as seldom as possible. He had seen the progress of the erysipelatous blush apparently checked by the injection of a three per cent. solution of carbolic acid into the sound tissue near the margin. Sixteen injections were used, and though very much reduced at the time the patient recovered.

DR. W. M. LESZYNSKY said that during the past week he had a case of facial erysipelas, in which the compound tincture of benzoin had seemed to have a good effect when locally applied. He had also seen another case in which the injection of a two per cent. solution, in different spots about the line of demarkation, had seemed to have a beneficial effect. He thought that in many cases where the recovery from a supposed erysipelas was very rapid the disease might have been, in reality, a dermatitis, and that the high temperature of erysipelas should have been present to establish a trustworthy diagnosis.

(To be concluded.)

— A remarkable variation of temperature occurred in Boston on the 21st inst., from —1.2° F. to +54.2° F., the range being 55.4° F. within twenty-four hours.

NEW YORK ACADEMY OF MEDICINE.

REPORT OF THE COMMITTEE ON ETHICS ON A "CHARGE AGAINST A FELLOW."

AT the meeting held December 4th it was announced that a charge had been made against a Fellow, and had been referred, according to rule, to the Committee on Medical Ethics. At the meeting of December 18th this committee, of which Dr. Andrew H. Smith is chairman, made their report, the First Vice-President, Dr. Robert F. Weir, presiding. The charge was made against the President, Dr. Fordyce Barker, by six Fellows of the Academy, that he had violated Section Third of the Fourteenth Article of the By-Laws by "committing an act which unfavorably affects the character of the medical profession."

Specification 1 was as follows: On or about January 4, 1854, or at some time later than January 4, 1854, the said Fordyce Barker did, with his own hand, inscribe in the signature book of the Academy the statement that he was a graduate in medicine of Paris of the date of 1844, the said Fordyce Barker not being at that time or at any subsequent time a graduate of Paris.

The other specifications made similar charges for different dates.

As the charges had already been made public the matter was disposed of in open session.

DR. SMITH, chairman of the committee, proceeded with the report, which took up the specifications in regular order.

As to the first, an investigation of the signature-book of the Academy showed that the entry, "and Paris, 1844," after Dr. Barker's name was in a different ink from the rest of the writing, and had evidently been written over an erasure; a fact to which the accusers made no allusion. It was manifestly impossible that Dr. Barker should have inscribed his name and the source of his degree in 1854, since the book was not in existence until the year 1862. Before that time such records were kept on loose slips, and there was at the present time in the possession of the Academy Dr. Barker's original application for membership, in which he stated that he had received the degree of M. D. from Bowdoin College, Maine, in 1841; no mention whatever being made of his being a graduate of medicine of Paris. Furthermore, Dr. Barker had always stated that he never knew that a diploma had been granted him in Paris until 1861.

As to Specification 2, Dr. Barker admitted that he had inadvertently given the year 1844 as the date of his Paris diploma instead of 1845.

In support of their statement that Dr. Barker had never received a diploma in Paris the accusers presented communications from a M. Clemenceau, who was said to be the secretary of the Paris Faculty of Medicine, a M. Chevallier, and others, to the effect that the tables of theses from 1840 to 1845, inclusive, had been looked through, that all the papers, complete and incomplete, of doctors, and even of officers of health, of these six years had been examined, without the name of Dr. Barker being found, and that without defending a thesis no one could become a Doctor of Medicine of Paris. They also stated that another search of the archives and of the library of the Faculty of Medicine had revealed that no trace of the medical studies of Dr. Barker in Paris between the years 1840 and 1870 existed, and that it was not possible that a foreigner should have received a diploma of Doctor of Medicine unless his name were inscribed in the archives. Having read the translations of these reports, Dr. Smith remarked that he would say in passing that only that afternoon there had been placed in his hands a copy of the *Almanac Générale de Médicine* which contained the official list of the Faculty of Medicine of Paris for 1844, and that he had searched in vain in it for the name of either M. Clemenceau or M. Chevallier.

The defense of Dr. Barker, the report continued, consisted in a clear and dispassionate statement in which the following points were maintained: That in 1845, at the suggestion of friends in Paris who were members of the Faculty, he underwent partial examinations for a degree from the School of Medicine; that his studies and examinations were interrupted by his being called home by the alarming illness of his wife's mother; that while awaiting a steamer in which to return he received a letter from Professor Orfila, Dean of the Faculty, informing him that a diploma would be granted him at some date in the near future; that he wrote a reply to this note relinquishing his claim to the diploma, as he could not reply to the necessary conditions; that sixteen years afterward, in 1861, not having in the mean time heard anything about the diploma, he was dining in Paris with M. Trousseau, in company with the Minister of Public Instruction, when Trousseau publicly referred to his (Dr. Barker's) being a graduate of Paris; that he immediately disclaimed the title, and related the facts above stated; that Trousseau affirmed that he knew that a diploma had been made out for Barker, as he himself had taken special interest in it, and as this document must be somewhere in the Department of the Minister of Public Instruction he appealed to that officer, who was present, to have it searched for; that a few days later, on returning from a temporary absence from Paris, Dr. Barker found at his hotel a roll, addressed to M. Trousseau and marked as coming from the Minister of Public Instruction, which contained his diploma from the School of Medicine in Paris, dated in 1845; that on his return home he showed this diploma to a number of friends gathered at his house to welcome him on the evening of his arrival in New York, two of whom were still living and remembered the occurrence; and that some years later it was discovered that this diploma, together with all his diplomas received prior to 1862, was lost, presumably on the occasion of his removal to his house on Madison Avenue.

When Dr. Barker heard of the present charges it occurred to him that he had shown his Paris diploma to a number of friends gathered to meet him on the occasion of his return from Europe in the autumn of 1861, and as Drs. Edwin H. Davis and R. Ogden Doremus were the only ones that he could remember who were still living, he wrote to each of them, without mentioning why he wished the information, to inquire if they remembered seeing the diploma and could recall any of the circumstances connected with his showing it to them. The replies of these gentlemen, together with the notes of inquiry to them from Dr. Barker, accompanied the statement of the latter, and were read by Dr. Smith. Both remembered seeing the diploma perfectly well, and also a number of the circumstances of the occasion when it was shown. Dr. Davis mentioned that among those who were present

were Dr. Doremus and Dr. Charles Budd; that the diploma was dated in 1844 or 1845; that Dr. Barker explained how it was that he had been so long in receiving it, though he could not now recall the explanation; that the time of his seeing the diploma was in 1861, as Dr. Barker had commented on the strange manner in which it impressed him to meet a regiment on its way to the seat of war as he was coming up Broadway on his way from the steamer; that he had examined the diploma with especial care, as he was at that time connected with the old New York Medical College, and had much to do with getting up diplomas, and that he remembered seeing Orfila's name signed to it and Trousseau's name on the back. Dr. Doremus wrote that he could fix the date because the battle of Bull Run and the birth of the only child of his who had not been brought into the world by Dr. Barker had both occurred during the summer, while Dr. Barker was away. He was struck with the name of Orfila on the diploma, because he was so familiar with it in his toxicological studies. Dr. Barker had pointed out the date, 1845, explaining how that had happened, and telling of Trousseau's kindness in recovering the diploma for him. He also remembered that Dr. Budd had made some facetious remarks in regard to the way in which the diploma might be used.

The report of the committee was concluded in the following words: "This statement from a man of the high character of Dr. Barker, coupled with the fact that he did not claim that he had a Paris degree until after his return from Paris in 1861, when he had been already twenty years in practice, during sixteen of which he had been a professor, and when he had been the recipient of many professional honors, might well be deemed a sufficient answer to mere negative evidence, depending for its validity upon an assumption that a record cannot be incomplete. Added to this is the evidence of two unimpeachable witnesses. The committee has therefore decided unanimously that the charges are not sustained."

The report of the committee was adopted by a unanimous vote.

— A man went to Bristol, Eng., says a daily contemporary, for a few days to stay with some people, and especially to visit a lunatic asylum in the neighborhood, where a large concert for the benefit of the inmates was given. The visitor found the audience, with very few exceptions, intelligent, appreciative, and, to all outward appearance, perfectly sane. The person who sat next to him conversed so delightfully that he felt compelled to remark: "I beg your pardon, but you are surely not a — a — resident here?" To which the stranger replied meekly: "Yes, I am." But insisted the visitor, "You are not — you cannot be — the least mentally afflicted?" And the other replied: "Well, I have an inconceivable predilection. In fact, you see this piece of chalk. Wherever I go I can't resist the temptation to write bad language on the walls. My keeper has nothing to do but walk behind me with a wet sponge and rub it out, but he has a hard time, for I write very rapidly. I was three damns ahead up to 7.30, and I have just written 'hell' five times on your back!"

Medical and Surgical Journal.

THURSDAY, DECEMBER 25, 1884.

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SPECIAL NOTICE. — Messrs. Houghton, Mifflin & Co. desire to announce that arrangements have been made to transfer the publication of the "Boston Medical and Surgical Journal" to Messrs. Cupples, Upham & Co., on the first of January, and they wish to close up the accounts of the Journal as soon as possible.

They therefore earnestly request all subscribers to the Journal who have not paid their subscriptions up to January, 1885, to remit without delay the sums due on this account to

HOUGHTON, MIFFLIN & CO.,
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ANNUS MEDICUS, MDCCCLXXXIV.,

Or rather Annus Domini 1884, but Annus Medicus — what? In a sense the latter expression may seem to be synonymous with Annus Salutis Humanæ, but for the numeral really appropriate to the medical year we should rather look to the Hebrew than to the Christian calendar. Annus Medicus I. was probably Annus Mundi I., but for the number of the current medical year we will allow each reader to make his own calculation. Meantime, following a former custom of this journal, we will in this closing number of the year briefly recapitulate some of its leading events.

The prominent point of interest for the past year for medical men has unquestionably been the invasion of Europe by cholera. The first case was reported to have presented itself June 14th on board a French man-of-war which had been lying at the naval yard at Toulon for fifteen months. The disease ravaged Toulon, attacked Marseilles, and spread to a number of smaller towns and villages throughout Southern France. Italy was invaded by Leghorn and Spezzia in spite of elaborate quarantine proclamations, the clothing of Italian workmen returning from France being very efficacious in spreading the poison, — in fact it could not have been more effective in this way if it had been baled rags!

Naples was the greatest sufferer, about seven thousand deaths taking place in a population of half a million. Cholera found its way into Spain, but its victims there, though widely scattered, were comparatively insignificant in numbers. Some cases of cholera were reported at Paris and neighboring towns early in the summer without being officially authenticated. Toward the end of October there was no doubt about the presence of the pest at Nantes, Montreuil, St. Nazaire, Yport, and other places in the northern departments; and by November 5th, the fact that cholera had entered Paris was officially recognized. The epidemic in Paris was a short and mild one, and now at the end of the year little more is said about it.

The number of cases in France and Italy, since the middle of June may be stated at not far from 25,000, and the mortality at something under fifty per cent.

The comma bacillus of Koch has excited and continues to excite much discussion and experimentation.

Rietsch and Nicati, and subsequently Koch himself, announce that they have supplied the missing link of inoculation; but, on the other hand, a skeptical Frenchman has swallowed the bacilli with impunity, and an English observer (we believe incorrectly) is persuaded that it exists in all saliva. We prefer to await the lapse of another year before attempting to estimate the exact relation of this microbe to cholera. An English commission, consisting of Drs. Klein and Heneage Gibbes, is now at work on the question in Bombay, and their official report may be awaited for additional light. We understand that, thus far, although recognizing the bacillus as a distinct microbe accompanying cholera, they have been unable to establish any pathogenic relation to it.

Let us hope that a year hence our exact knowledge of cholera may be enlarged, but only as an abstract disease-problem.

Considerable agitation has been caused in educational and medical circles in England by the open criticism offered by a number of medical men, notably by Mr. Crichton Browne, of the overpressure upon pupils in the public schools. Mr. Browne's paper called forth a rattling rejoinder from the Minister of Education, which was met in turn by further detailed evidence, that, to the minds of the medical public at least, seems to present quite a strong case. The matter is certainly one not to be settled by any flippant wordy war, and our English brethren will, it is to be hoped, in the interest of the great question of popular education, which is broader than any national limits, investigate calmly and dispassionately how far the demands of the present school system are in conflict with the true mental and physical welfare of the pupils.

In April the University of Edinburgh celebrated in a series of brilliant assemblies the completion of her three hundredth anniversary in a condition of material wealth and intellectual vigor promising well for a perpetuation of her existence for another three hundred years. Among the scientific men called to receive academic degrees on that occasion were several of our own countrymen.

During the summer a novel and interesting exhibition has been held at South Kensington, London, of articles relating to public and individual sanitation. "The Healtheries," as the buildings were dubbed by the public press, have been thronged during the whole season, and the undertaking has at least financially proved a successful venture. The scope allowed to exhibits has been a wide one, and improved methods for heating, lighting, ventilation, drainage, cooking and preserving food, dress, technical education, sanitary plans for the domicile and the workshop, and many other important subjects were illustrated. Moreover, those popular features were not omitted which serve to present instruction in an attractive form. Lectures on topics of interest were given by competent speakers, and the English people, as well as visitors from other countries, have had an opportunity never granted heretofore of becoming practically informed on many important subjects not usually well understood by the public.

The rescue of Lieutenant Greely and the few survivors of his party by the relief expedition under Commander Schley was one of the satisfactory achievements of the year. The capacity of the human frame to endure exposure to cold and insufficiency of food has been again illustrated. The readers of the JOURNAL were given the medical history of Greely's case from the time of his rescue till his restoration to health, as recorded by the surgeon in charge of him. Attention has been directed anew to the physical and mental effects of starvation, as well as to some phases of that dire experience which seems to have been forced upon the survivors, namely, anthropophagy.

The profession in Berlin has been considerably agitated over the appointment of Dr. Schweninger to the Medical Faculty of that university by the command of the Prime Minister, and over the protests of the other members of the body. A paternal government is often claimed as affording an especially favorable atmosphere for higher scientific culture. But paternity sometimes passes over into nepotism, and the illustrious grateful patient recompensed his attendant with a chair which he is universally admitted to be too small to fill, to say nothing of certain methods so strongly savoring of charlatanism that they look singularly incongruous with professional robes. Meantime, as the paternal government does not favor freedom of speech, medical opinion can speak in no louder or clearer tones than a suppressed growl, and Schweninger keeps his seat. That the honor is somewhat of a barren one, however, is shown by the fact that thus far not a single student has attended his clinic, and it remains for the autocrat to issue a ukase to the effect that students shall admire and seek after the new professor.

Among the therapeutic novelties of the year we may mention two, etherization by the rectum and cocaine. The former proceeding was brought to the attention of European and American physicians by Dr. Mollière, of Lyons. The advantages first anticipated from this method in economizing the amount of the anæsthetic were found to be counterbalanced by the impossibility of regulating the degree of anæsthesia and by the intestinal disturbance caused by the local action of the gas, so that the procedure has been generally relegated to those few cases in which inhalation is for some reason impracticable.

Cocaine was introduced, or, rather, was shown to be of practical utility as an anæsthetic by Dr. Koller, of Vienna. Its great value as a local anæsthetic upon the conjunctiva has been abundantly established, and experimentation with it in various forms of administration is now rife on every hand. With what permanent residue of good must be left to the chronicler of a future Annus Medicus.

The medical world has come to look with interest for those statements of the latest and best professional opinion upon various topics which are embodied in the endowed courses of lectures of which our English brethren enjoy several, and which, it is to be hoped, will some day, through the beneficence of some of the

wealthier members of the profession, become a regular institution of our own medical centres.

Among the more notable English productions of the year in this kind have been the following: —

The Lettsomian Lectures on Modern Operations for Cataract, by Mr. R. Brudenell Carter.

The Gulstonian Lectures on Neuroses of the Viscera, by Dr. T. Clifford Allbutt.

The Croonian Lectures on the Evolution and Dissolution of the Nervous System, by Dr. J. Hughlings Jackson.

The Lumleian Lectures on the Ætiology of Phthisis, by Dr. J. Andrew.

The Bradshawe Lecture on the Pathological Relations of the Absorbent System, by Dr. G. Hare Philipson.

The Bowman Lecture on the Relation of Certain Diseases of the Eye to Gout, by Mr. Jonathan Hutchinson.

Of other valuable courses of lectures we should mention that by Sir Henry Thompson on Some Important Points in Connection with the Surgery of the Urinary Organs.

The more important Societies met during the year as follows: —

The American Climatological Society held its initial meeting in Washington, May 3d to 5th.

The American Medical Association, at Washington, May 6th to 8th.

The American Laryngological Association, in New York, May 12th to 14th.

The Massachusetts Medical Society, in Boston, June 10th to 11th.

The American Neurological Society, at New York, June 18th to 20th.

The British Medical Association, at Belfast, July 29th.

The International Medical Congress, at Copenhagen, August 10th to 16th.

The International Congress of Hygiene, at The Hague, August 21st.

The Canada Medical Association, at Montreal, August 25th to 27th.

The American Gynæcological Society, at Chicago, September 30th to October 2d.

The American Public Health Association, at St. Louis, October 14th to 17th.

GENERAL NECROLOGY FOR THE YEAR.

Dr. Elisha Harris, Secretary of the New York State Board of Health and Superintendent of Vital Statistics, died February 1st, aged sixty. During the war he was active in the organization and work of the United States Sanitary Commission, and since then has done much service in various official positions in connection with vital statistics and public health.

Dr. George Engelmann, of St. Louis, a prominent physician of that city, and for many years President of the St. Louis Academy of Medicine, died February 4th, aged seventy-six.

Dr. John Hutton Balfour, emeritus professor of medicine and botany in the University of Edinburgh, and author of a variety of books and articles on scientific topics and especially botany, died in February, aged seventy-six.

Dr. L. P. Yandell, of Louisville, Ky., editor of the *Louisville Medical News* and professor of the theory and practice of medicine in the University of Louisville, died in March, aged forty-seven.

Professor Reichert, late professor of anatomy in the University of Berlin, died, aged seventy-three.

Allen Thomson, M. D., F. R. S., etc., one of the most distinguished anatomists and embryologists of his time, died in London March 22, 1884, at the age of seventy-five. He was born in Edinburgh, and was at one time associated intimately in anatomical work with Dr. William Sharpey. He was professor of anatomy and physiology at different times in three of the four Scottish Universities, namely, Aberdeen, Edinburgh, and Glasgow, and was a voluminous writer. Perhaps that portion of his work most familiar to our readers is in connection with Quain's Anatomy, of which he edited the seventh and eighth editions. He received numerous academic honors, among them the degree of D. C. L. from Oxford.

Jean Baptiste Dumas, professor of chemistry at the Faculty of Sciences, the Faculty of Medicine, and the College of France, friend and disciple of Lavoisier, and member of the Académie Française, died at Cannes, whither he had gone for his health, April 17th, at the ripe age of eighty-four.

Charles Adolphe Wurtz, of Paris, an associate of Dumas, and an equally distinguished chemist, died in Paris, May 12th. He was a successor of Orfila and of Dumas in the professorship of chemistry, was Dean of the Faculty of Medicine and of the Academy of Sciences, and a fertile writer on chemical subjects.

Dr. Pliny A. Jewett, of New Haven, Conn., for twelve years professor of obstetrics in the Medical Department of Yale, and ex-President of the Connecticut State Medical Society, died April 10th, aged sixty-eight.

Dr. Moreau, of Paris, formerly connected with Bicêtre and La Salpétrière hospitals, and a somewhat noted alienist, died, aged eighty.

Dr. Willard Parker, of New York, died April 25th, at the age of eighty-four. He held professorships in anatomy and surgery at the Vermont, the Berkshire, and the Cincinnati Medical Colleges, and from 1839 was for thirty years Professor of Surgery in the College of Physicians and Surgeons of New York. At the end of this time he resigned this chair and was given that of clinical surgery. His contributions were numerous to public health as well as to surgical science, in which field he devised a number of operative procedures. He was an honorary member of the Massachusetts Medical Society.

Prof. Samuel D. Gross, of the Jefferson Medical College of Philadelphia, one of the most illustrious American surgeons of his time, died May 6th, at an advanced age. His contributions to surgical literature were numerous, among the most widely known being his System of Surgery, of which he had just com-

pleted with the aid of his son a new and much enlarged edition at the time of his death. In 1880 he received the degree of LL. D. from the University of Cambridge, England. News of his death was received during the session of the American Medical Association, and was announced to that body, of which he had been a former president.

Dr. Alexander Tweedie, of Edinburgh, died May 30th at the age of ninety. He was the originator of the Cyclopædia of Practical Medicine, which covered with considerable fullness the ordinary range of medical subjects, and also edited the Library of Medicine which appeared in 1840.

Sir Erasmus Wilson, a well-known authority and author on dermatology, died in England, August 7th, at the age of seventy-five. He had been President of the Royal College of Surgeons. He was possessed of large wealth, which he used liberally during his lifetime for public charities. He endowed a chair of Dermatology in the College of Surgeons, of which he was himself the first incumbent. He also founded the chair of Pathology at Aberdeen, and left a residuary legacy to the College of Surgeons which will probably amount to $900,000.

Joseph Janvier Woodward, Surgeon, U. S. A., an original worker in microscopy and micro-photography, and a collaborator with Dr. F. N. Otis upon the early volumes of the Medical and Surgical History of the War of the Rebellion, died August 17th, aged fifty-two.

Dr. Julius Cohnheim, in early life an associate of Virchow, at Berlin, later professor at Kiel and at Breslau, and finally at Leipsic, best known for his researches on the pathology of inflammation, died at Leipsic, August 14th, at the age of forty-five.

John Netten Radcliffe, an able and industrious laborer in the field of public health in England, died in September. In familiarity with epidemiology, especially that of cholera, he was probably equaled by none of his contemporaries. A report on this subject to the Privy Council in 1865 was the first of a series of such papers which gave an immense amount of information as to the place of origin and the progress of various epidemics; the last of these reports was issued in 1881. He was made President of the Epidemiological Society in 1875. His experience would doubtless have been of great value in the epidemic of the present year, had he been spared.

Dr. Jacob H. Stewart, a prominent physician of St. Paul, Minn., formerly mayor of that city, member of Congress, and surveyor-general of Minnesota under President Hayes, died August 25th, aged fifty-six.

Dr. Robert E. Rogers, Professor of Chemistry in the Jefferson Medical College of Philadelphia, died September 6th, aged seventy. He had filled a similar professional chair in the University of Pennsylvania.

Prof. Luigi Somma, of Naples, founder and editor of *Archivio di Patologia Infantile*, was stricken down by cholera during its invasion of Naples, and died at the post of duty, September, 19th.

Professor Jäger, of Vienna, renowned as an ophthalmologist, died during the summer.

Dr. Herman von Zeissl, a contemporary and coworker with Skoda, Hebra, and Rokitansky, and an eminent syphilographer and teacher of Vienna, died September 23d, aged sixty-seven.

Dr. Sulpice Antoine Fauvel died in Paris, November 5th, at the age of seventy-one. He was for many years inspector-general of the Sanitary Department of France, and had represented his country at two international sanitary congresses.

Dr. Frederick A. Mahomed, a student and writer in the domain of what might be called transcendental pathology, died of typhoid fever November 22d, in the 36th year of his age. His first elaborate work was on the sphygmograph, he made several contributions to the pathology of Bright's disease, and during the past summer he was engaged in organizing the anthropometrical laboratory at the Health Exhibition. He was one of the most active promoters of "collective investigation."

Prof. J. B. Fonssagrives, a well known French writer on medical and hygienic subjects, died of cholera.

NECROLOGY OF THE MASSACHUSETTS MEDICAL SOCIETY. 1884.

George Carlisle Lawrence, M. D., of North Adams, died January 6th, aged sixty-three.

Joshua Jewett Johnson, M. D., of Northborough, died January 29th, aged seventy-four years.

Almon Nelson Allen, M. D., of Pittsfield, died February 6th, aged sixty-three.

Noble Bennett Pickett, M. D., of Great Barrington, died February 5th, aged eighty-three.

Albert Faxon Eastman, M. D., of Abington, died February 13th, aged forty-one.

Henry Lyman Sabin, M. D., of Williamstown, died February 24th, aged eighty-three.

Michael Roberts, M. D., of Lawrence, died February 10th, aged fifty-six.

Morris Spofford, M. D., of Groveland, died March 7th, aged fifty-five.

George Hooker, M. D., of Longmeadow, died March 14th, aged ninety.

Wilbur Fiske Sanborn, M. D., of North Sandwich, N. H., died March 19th, aged thirty-four.

William Henry Campbell, M. D., of Roxbury, died April 24th, aged fifty-two.

Willard Parker, M. D., of New York, died April 25th, aged eighty-four.

Edgar O'Meara Fowler, M. D., of Danvers, died May 1st, aged thirty-one.

Charles Hosea Hildreth, M. D., of Gloucester, died May 18th, aged fifty-eight.

William Lawrence Sprague, M. D., of Boston, died June 22d, aged thirty-four.

Benjamin Franklin Wing, M. D., of Jamaica Plain, died August 1st, aged seventy-nine.

Abel Bryant Adams, M. D., of Lexington, died August 13th, aged seventy-three.

John Homer Dix, M. D., of Boston, died August 25th, aged seventy-two.

Frank Abner Langworthy, M. D., of Lakewood, N. J., died in California, August 31st, aged thirty-four.

Howard Franklin Damon, M. D., of Boston, died September 17th, aged fifty-two.

Luther Clark, M. D., of Boston, died September 26th, aged seventy-four.

Charles Morris Duncan, M. D., of Shelburne, died October 4th, aged seventy-six.

William Jackson Currier, M. D., of Lexington, died October 27th, aged sixty-nine.

Edward Jarvis, M. D., of Dorchester, died October 31st, aged eighty-one.

Nathan Savery Chamberlain, M. D., of Marlborough, died October 31st, aged thirty-nine.

Samuel Augustus Fisk, M. D., of Northampton, ex-President of the Massachusetts Medical Society, died November 16th, aged sixty-three.

Henry Austin Martin, M. D., of Roxbury, died December 7th, aged sixty.

THE TRIAL AND ACQUITTAL OF DR. FORDYCE BARKER BY THE NEW YORK ACADEMY OF MEDICINE.

THE trial last week of Dr. Fordyce Barker before the New York Academy of Medicine, of which he was President, for improperly claiming a Paris degree of Doctor in Medicine, was a sad business. We care very little for the evidence in the matter one way or the other. But the forcing of such an issue in such a manner against a professional brother of Dr. Barker's standing bears too plainly the impress of personal pique and spite. The profession of medicine can gain nothing from such performances.

This trial is to be regarded as a melancholy echo of the wrangle over the Code in New York last year. Whatever opinion we may entertain of the wisdom of the men who forced that foolish issue last year we are glad to be able to congratulate Dr. Barker heartily upon the handsome vindication he has received.

Hitherto the only good issue of the whole Code controversy which we have been able to detect was the formation of a State Medical Association which does really valuable medical work to the neglect of wire pulling and pipe laying for public popularity.

MEDICAL NOTES.

NEW YORK.

— The exercises of the sixteenth anniversary of the Presbyterian Hospital were held on Sunday evening, December 14th, at the West Presbyterian Church, when a sermon appropriate to the occasion was preached by the Rev. Dr. John R. Paxton, in the course of which he said: "We are indebted to the Jews for many things, for human law and their teachings of the sacredness of life, but not for hospitals. These are the sole creation of Christianity. The first hospital founded was in a little inn on the road from Jerusalem to Jericho, when the good Samaritan, as attending physician, poured oil into the wounds of the first patient, the man found upon the road-side. This hospital was but the beginning; but although insignificant, the idea had been born, the duty to aid our fellow-men recognized, though the means how to do it best were wanting." Since the last anniversary five beds have been endowed by the Presbyterian churches of New York at a cost of $25,000, and thirteen churches and chapels are now providing funds for additional beds, while a certain lady has promised to give $50,000 towards $150,000 that is needed for the erection of children's and accident wards if the rest of the amount is subscribed.

— The annual meeting of the State Charities Aid Association was held December 13th, when the Sub-Committee on Hospitals reported that they had prepared two plans: one for a village hospital, accompanied by an explanatory leaflet, and one for a model poor-house. An effort has been made by another committee to establish cooled-water fountains in crowded tenement-house districts. Reports from the Metropolitan Drinking Fountain Association in England, it was stated, show that these fountains supply a great want in such districts, and are the means of doing much good, diminishing sickness among children, and also lessening intemperance. A special Committee on the Insane, which was appointed last February, has prepared two pamphlets: one entitled A Summary of Legislation in England, and Condition of Lunatics in Scotland, and the other on the Training of Nurses for the Insane. This committee has secured the coöperation of the Bellevue Training School, and is now occupied in maturing a plan by which a certain number of women trained there as nurses for the sick may secure in one of the asylums a special training in the care of the insane. A fund of $1350 has also been contributed to be used in the training of such nurses.

— "Doctor Grattan," Dr. Hammond's second novel, has appeared, and in it the author is said to have availed himself of his experience in mental disorders to produce a number of romantic and surprising situations. In the meanwhile his "Lal" is being prepared for representation on the stage.

Correspondence.

LETTER FROM PARIS.

THE CHOLERA EPIDEMIC.

PARIS, *November* 22, 1884.

MR. EDITOR, — Believing that a short account of the recent epidemic of cholera, which has visited this city, may be of interest to some readers of the JOURNAL, I send you a brief description of what it came in my way to observe: —

I reached Paris October 20th. In Berlin, which I left, the weather had been cold with frequent drizzling rains, and a dull, dark, and dismal atmosphere. I was told that a somewhat similar state of things had also been present in France, although the weather was fine on my arrival. During the four weeks of my stay in this city there have been two rainy days, and two or three cloudy days. The weather during the remaining

time has been generally clear, and the temperature cool, the midday reading averaging perhaps 50° F. to 55° F.

The drainage of the greater part of the city seems to me excellent, the sewers are supplied with an abundance of water from the public fountains and other sources, and the mains are regularly opened in the streets or beneath the sidewalks for the purpose of additional flushing. I have never been able to detect any odor from the sewer openings, and in the houses where I have been there was not the slightest perceptible trace of sewer gas.

I did not go through the sewers, but a friend who traveled through some five miles of main or contributory sewers on October 25th described the condition of the sewage as very dilute, and except in a few localities at the junction of several trunk sewers there was no offensive odor. The telegraph system of Paris is also conveyed in the interior of the sewers, and one of the men constantly employed in repairs and new construction said that he had not been sick or in any way unpleasantly affected by the work in the sewers during five years of service.

In some limited districts of Paris the improved sewerage system has never been fully carried out, and one there sees still the old form of gutter near the sidewalk with more or less offensive and discolored contents. The older houses are also built in the shape of a square block inclosing a small court-yard, where the water supply for the entire building is located, and the drainage, except from the latrines, flows through the court-yard and under the main entrance to the street in an uncovered gutter. Here there may at times be noticed a somewhat offensive odor.

The food supply seems to be exceptionally good. I visited the great central market, "les Halles," at one o'clock in the morning. I could observe nothing in the least degree questionable in quality, and was struck by the absence of "second class" articles of food consumption. There is evidence of a rigorous inspection of all articles of food supply.

The water is of surface origin and is soft in quality, clear in appearance, and free from perceptible odor or taste. I believe the house service is generally by a supply tank, and not by direct flow from the mains. I have no knowledge of the milk supply further than the fact that in several places of pleasure resort there are stables in which cows are kept and visitors enter the stalls and for a small price receive a cup of milk warm from the cow. I tasted no milk which impressed me as bad, and saw no dirty milk.

Under these condition cholera appeared in the city, and after four or five days had assumed such proportions in the form of an epidemic that it was impossible to further conceal the fact of its existence. The first cases occurred in one of the poorest districts in the city, and were for a time confined to certain large tenement houses inhabited by rag pickers, and occupied in part as a depository or depot for rags of all kinds. The patients were without an exception those of intemperate and filthy habits, who were badly housed, insufficiently nourished, poorly clad, and much exposed to cold and wet. Many of the earlier cases died without treatment or were treated in their homes; but soon arrangements were adopted for the immediate transportation of cholera patients to the various hospitals where special isolated wards were devoted to their care. Removal from the patient's home was never made obligatory, nor was it considered necessary to place the infected houses in quarantine or to establish police supervision over the residents.

At this time no restriction was placed on travel between Paris and the southern parts of France.

For some days after the official announcement of the existence of an epidemic the disease increased in severity and extended from its point of first appearance to nearly every ward of the city. In nearly all instances some means of infection from previous cases could be traced, but in some cases it was not possible to discover the manner by which the disease had been acquired.

A volunteer medical service was at once established, and with the coöperation of the municipal sanitary board and the aid of the police, the city was thoroughly patrolled, and every offensive place either cleansed by the authorities or by the owners or occupants of the property. The smell of disinfectants was frequently noticeable, and the public streets and squares were, if possible, kept even more scrupulously clean than before. In many streets the gutters were constantly flushed by opening the hydrants, and the public urinals were disinfected. Each day the mayor issued an official bulletin in which the number of cases under treatment and the number of new cases was announced as well as the rate of dissemination of the disease by wards in the city. It was stated that the highest rate only amounted to one patient to 17,000 inhabitants. The cases were usually of a mild type, the mortality never to my knowledge exceeded thirty-three per cent. of the number of patients, and except in an outbreak which occurred in an asylum for the aged, supported by the scanty means of a few sisters of a religious order, there was no appearance of especial virulency about the epidemic. In this asylum the inmates who took the disease were, I believe, all above seventy years of age, and the mortality, as might have been expected, was relatively very high. Here also occurred the only instance of the entire epidemic in which a nurse or attendant was known to take the disease. One of the sisters who was constantly in the room devoted to cases of cholera is said to have taken the disease, and after two days died from it. With this single exception no instance was known in which cholera was directly communicated from the person of the patient to his attendants, or even to his surroundings.

As may be supposed, many persons then in Paris were much alarmed by the presence of cholera as well as by the apprehension that neighboring countries might establish quarantine against persons or commerce from French ports, and a general exodus of travelers and strangers at once took place.

It is estimated that within four days more than thirty thousand people crossed the channel to various ports in England, nearly all of whom came from Paris. The hotels became literally empty; many families who were established for the winter at once left the city, and a vast change was immediately noticeable in the clubs, thoroughfares, and fashionable restaurants. Strange to say, the resident inhabitants of Paris did not become in the least frightened, and no signs of a panic were at any time observable. The theatres were better filled during the weeks of cholera than during the weeks immediately preceding, and no change was noticeable in the behavior of the common people, that element which is generally most easily frightened by any unusual occurrence.

After about ten days of maximum severity the number of cases and the gravity of the disease became gradually diminished, until to-day the epidemic is at an end. Cases of so-called "choleraic" disease were reported for some days after the subsidence of the true cholera, but these were uniformly of mild character and ended in every instance by recovery.

The report of cases in the military establishments are very unsatisfactory, and are not taken into account, though there were doubtless a few cases in the barracks.

The reported treatment consisted in a general way in the moderate use of anodynes, the administration of stimulants, the application of external heat, and the nourishment of the patient by bland food in liquid form. In some cases nutrient enemata were employed, and the use of saline intravenous injections was also reported. No special mode of treatment has seemed to influence the disease in an appreciable manner. The favorable change in the epidemic and its final subsidence are generally referred to the lower temperature, and particularly to the frosts of the middle of November.

So far as I was able to observe, there is a far greater degree of confidence on the part of the medical profession in France, in the employment of prophylactic measures to prevent the occurrence or spread of cholera than in any method of treatment when the disease has once appeared. The low death-rate in the present epidemic is attributed wholly to the mild form of the disorder, and not to the advancement of our knowledge concerning the disease, or of improved methods of treatment.

The police were supplied with flannel bands for the abdomen, and were served a ration of grog and sometimes coffee during the night patrol. The municipal government made grants of money for the relief of the sufferers, and the gratuitous supply of disinfectants among the poorer classes.

There is no doubt that much cleansing was accomplished, and with this and the coming of cooler weather the disease abated and finally entirely disappeared.

In review, we have the outbreak of a limited epidemic in the centre of a large city, manifesting itself especially among rag pickers, and for a time apparently confined to them and to their habitat alone. Afterward the disease spread to a moderate extent and was reported from nearly every part of the city. The patients were almost without exception persons who were underfed, insufficiently protected, dissolute, and intemperate. To my knowledge not one stranger was attacked in the entire epidemic, and no English speaking person was known to suffer from the disease. But few residents of Paris left the city, and there was no appearance of fright, much less of panic to be observed. The disease is entirely quenched, and will doubtless not recur until the approach of warmer weather, when it will, in the opinion of most of those with whom I have spoken, again appear, and will far exceed the present epidemic both in the extent of its ravages and in severity. The disease has already been recognized in Nantes, in Yport, in Brussels, in Marseilles, in Toulon; it has crossed the border into northern Italy; it has invaded Spain, and has been reported in some other places. It is to be feared that the advent of spring will arouse the disorder anew, and that the entire west of Europe will be devastated by it.

The epidemic just ended has not contributed anything material in support of the theories of Professor Koch as to the origin or "Wesen" of cholera. I have not been able to find either here or in Berlin any ardent support for the claims of the comma bacillus as the cause or essential element of the disease. The importance of the bacillus of tubercle is generally conceded, and in Berlin I saw specimens which were made for purposes of diagnosis, thus showing that the presence of the organism is recognized as of practical value in daily routine; but the same authority spoke of the bacillus of cholera with some degree of distrust, and expressed the opinion of the profession as being that the bacillus is a concomitant but not clearly the cause of the disease. A French physician, to advance the cause of science, and to disprove the claims of Koch, prepared a portion of the dejections of a cholera patient containing the comma bacillus and swallowed the infection. He was ill for thirty-six hours with the symptoms of a gastro-intestinal catarrh with febrile action, etc., but then quickly recovered his usual health, and could perceive no detriment from this nauseating experiment. I do not need to add that the feeling in France is decidedly antagonistic to the claims of Professor Koch.

It is yet too early for the official report of the sanitary authorities and the medical department upon the recent epidemic in Paris, but I am led to believe that efforts are being made to utilize the presence of the disease as a study for guidance in the expected revival of the disorder in the near future. It is to be hoped that this important information may be published in advance of the threatened outbreak of cholera, but in the mean time every precaution is being employed to secure the best possible sanitary conditions, which must favor a mitigated severity in any epidemic disease.

Very truly yours,

ALBERT N. BLODGETT, M. D.

Miscellany.

THE INSTINCT OF THE SPHEX.

IN an article in the *Nineteenth Century* (September, 1884) on the Darwinian theory of instinct, Mr. G. J. Romanes speaks of the instinct of the sphex as being the most extraordinary known. This insect, which is of a wasp-like species, lays its eggs in a hole excavated in the ground. It then flies away and finds a spider, which it stings in the main nerve centre of the animal. This has the effect of paralyzing the spider without killing it. The sphex then carries the now motionless spider to its nursery and buries it with the eggs. When the eggs hatch out the grubs feed on the paralyzed prey, which is then still alive, and therefore quite fresh, although it has never been able to move since the time when it was buried. Satisfactory explanation of this instinct is difficult on either of the twofold bases of Mr. Darwin's theory of the origin of instinct, namely, natural selection and the "lapsing of intelligence." What is still more astonishing is that M. Fabre, the French entomologist who first noted these facts, has more recently discovered another species of sphex which preys upon the grasshopper. As the nervous system of the grasshopper is more elongated than that of the spider, the sphex in this case has to sting its victim in three successive nerve centres in order to cause paralysis. Again,

yet more recently, M. Fabre has discovered still another species of sphex which preys upon the caterpillar, in which case the animal must sting its victim in nine successive nerve centres. These last observations militate against the view that the sphex's sting being in the median line, and the spider's nerve centre being also in the median line, an accidental striking of the nerve centre might have been naturally favored in the first instances, and thus a basis have been supplied upon which natural selection could work.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 13, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	658	235	19.35	19.65	1.80	8.25	1.85
Philadelphia	927,995	372	111	16.47	10.26	1.35	10.26	2.70
Brooklyn	644,526	290	118	14.35	24.85	.35	8.05	.70
Chicago	632,100	230	113	29.42	15.48	2.58	17.63	2.15
Boston	423,800	179	68	14.82	22.80	2.80	7.98	—
Baltimore	408,520	138	57	17.52	10.95	—	3.14	.73
St. Louis	400,000	134	48	27.38	21.46	2.96	11.10	3.70
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburg	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	49	10	18.36	8.16	6.12	4.08	6.12
New Haven	62,882	21	—	9.52	—	4.76	—	—
Nashville	54,400	19	4	26.30	11.52	5.26	11.52	—
Charleston	52,286	37	9	10.80	—	2.70	—	—
Lowell	71,447	25	4	24.00	12.00	8.00	8.00	4.00
Worcester	69,442	26	13	26.85	15.40	—	26.85	—
Fall River	62,674	27	12	18.50	7.40	—	11.10	7.40
Cambridge	60,995	28	11	21.60	21.60	—	14.40	7.20
Lawrence	45,516	20	7	20.00	10.00	—	5.00	10.00
Lynn	44,895	15	5	13.33	13.33	6.66	—	—
Springfield	38,090	19	5	26.30	10.52	2.56	10.52	—
Somerville	31,350	10	5	—	20.00	—	—	—
Holyoke	30,515	9	2	44.44	11.11	—	—	44.44
New Bedford	30,144	15	3	13.33	6.66	13.33	—	—
Salem	29,503	6	2	—	—	—	—	—
Chelsea	24,347	5	1	—	—	—	—	—
Taunton	22,693	4	1	25.00	—	—	25.00	—
Gloucester	21,400	7	3	—	14.28	—	—	—
Haverhill	20,905	6	2	16.66	16.66	—	—	16.66
Newton	19,421	7	0	14.28	14.28	14.28	—	—
Brockton	18,323	6	0	50.00	—	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	9	2	11.11	22.22	—	11.11	—
Fitchburg	13,433	7	2	28.56	14.28	—	14 28	—
Massachusetts towns	—	55	10	9.10	29.12	1.82	3 64	3.64

Deaths reported 2433: under five years of age, 863; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 458; lung diseases 411, consumption 369, diphtheria and croup 232, scarlet fever 53, typhoid fever 47, diarrhœal diseases 38, measles 25, malarial fevers 19, whooping-cough 18, cerebro-spinal meningitis 15, puerperal fever nine. From *diarrhœal diseases*, New York 13, Brooklyn and Chicago six each, St. Louis three, Baltimore, Nashville, and Charleston two each, Boston, Providence, New Haven and Lynn one each. From *measles*, New York 16, Brooklyn four, Philadelphia three, Chicago and St. Louis one each. From *malarial fevers*, New York 10, St. Louis four, Chicago two, Philadelphia, Brooklyn, and Charleston, one each. From *whooping-cough*, New York five, Brooklyn four, Chicago three, Boston and Baltimore two each, Philadelphia and St. Louis one each. From *cerebro-spinal meningitis*, Boston four, New York three, Philadelphia and Springfield two each, Chicago, Lowell, Lawrence, and Fitchburg one each. From *puerperal fever*, St. Louis four, New York and Chicago two each, Baltimore and Charleston one each. From *erysipelas*, Philadelphia and Chicago one each.

One case of small-pox reported in St. Louis; scarlatina 53, diphtheria 27, measles 19, and typhoid fever 18 in Boston.

In 103 cities and towns of Massachusetts, with an estimated population of 1,402,843 (estimated population of the State 1,955,104), the total death-rate for the week was 18.00 against 19.29 and 18.92 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending November 29th, the death-rate was 23.8. Deaths reported 3994: infants under one year of age 986; acute diseases of the respiratory organs (London) 511, measles 83, scarlet fever 76, whooping-cough 73, fever 53, diarrhœa 39, diphtheria 37, small-pox (London 30, Birkenhead two, Leeds and Cardiff one each), 34. The death-rates ranged from 17.3 in Plymouth to 30.7 in Cardiff; Birkenhead 21.2; Birmingham 24.3; Blackburn 22.7; Leeds 23.6; Leicester 23.6; Liverpool 27.4; London 22.3; Manchester 28.7; Nottingham 30.2; Sheffield 19.1. In Edinburgh 18.6; Dublin 37.1; Glasgow 35.4.

For the week ending November 29th, in the Swiss cities, there were 21 deaths from lung diseases, consumption 18, diarrhœal diseases 16, diphtheria and croup eight, whooping-cough four, erysipelas two, typhoid fever two, puerperal fever two, measles one, scarlet fever one. The death-rates were, at Geneva 13.2; Zurich 9.8; Basle 14.7; Berne 22.2.

The meteorological record for the week ending December 13th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Dec., 1884.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sun., 7	29.482	54.8	60.5	45.5	86	54	62	67.3	SW	SW	SW	16	18	25	C	O	F	—	—
Mon., 8	29.709	44.5	53.2	41.9	52	51	64	55.7	W	W	W	20	20	27	O	O	C	—	—
Tues., 9	29.858	38.4	44.7	35.2	61	50	65	58.7	SW	W	NW	10	10	12	C	O	C	—	—
Wed., 10	30.152	32.5	37.9	26.8	65	37	70	57.3	W	W	SW	8	10	8	C	F	O	—	—
Thurs., 11	30.017	35.8	40.5	32.5	96	82	68	82.0	S	SW	W	8	10	8	N	O	C	—	—
Fri., 12	30.061	35.0	37.1	32.6	64	69	78	70.3	NW	N	N	5	9	12	O	O	O	—	—
Sat., 13	30.265	30.2	34.5	27.6	78	90	86	84.7	N	N	W	12	12	3	N	N	O	—	—
Mean, the Week.	29.935	38.7	42.6	34.6				68.0										32.00	1.15[2]

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.
[2] Melted snow and rain.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY, FROM DECEMBER 6, 1884, TO DECEMBER 19, 1884.

KANE, JOHN J., captain and assistant surgeon. From Department of the East to Willet's Point, New York. S. O. 286, A. G. O., December 6, 1884.

BANISTER, J. M., captain and assistant surgeon (Fort Adams, R. I.). Granted one month's leave of absence on surgeon's certificate of disability. S. O. 251, Department of the East, December 9, 1884.

BARROWS, C. C., first lieutenant and assistant surgeon. In addition to other duties to take charge of Medical Director's office, Department of Arizona, during absence of Surgeon B. J. D. Irwin. S. O. 112, Department of Arizona, November 28, 1884.

GRAY, CHAS. C., major (retired), died at Geneva, N. Y., November 22, 1884, instead of November 26th, as heretofore announced. Circular Orders, A. G. O., December 8, 1884.

O'REILLY, ROBERT M., captain and assistant surgeon. Assigned to duty as attending surgeon, Washington City, D. C., to date from October 20, 1884. S. O. 284, A. G. O., December 4, 1884.

PILCHER, J. E., first lieutenant and assistant surgeon. Ordered to Fort Custer, M. T., for duty. Order assigning him to duty at Fort A. Lincoln, D. T., amended. S. O. 145, Department of Dakota, December 8, 1884.

COMEGYS, E. T., captain and assistant surgeon. Granted leave of absence for one month. S. O. 234, Department of Missouri, December 8, 1884.

LAUDERDALE, JNO. V., captain and assistant surgeon (Fort Sully, D. T.). Granted leave of absence for one month; to take effect about December 20, 1884. S. O. 146, Department of Dakota, December 9, 1884.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING TWO WEEKS ENDING DECEMBER 20, 1884.

CRAIG, T. C., passed assistant surgeon. Detached from the Alliance and placed on waiting orders. December 6, 1884.

CURTIS, L. W., assistant surgeon. To the Naval Hospital, Chelsea. December 9, 1884.

GAINES, J. H., passed assistant surgeon. Present duty continued.

GREEN, E. H., passed assistant surgeon. Special duty at Museum of Hygiene, Washington. December 11, 1884.

MURRAY, J. M., passed assistant surgeon. Detached from Naval Hospital, Chelsea, to the Flagship Hartford. December 9, 1884.

WOOLVERTON, T., surgeon. To the Shenandoah. December 6, 1884.

KINDLEBERGER, D., medical inspector. Detached from the Hartford and placed on sick leave.

WOMAN'S MILK FOR ANALYSIS.

THE undersigned is desirous of securing specimens of woman's milk for analysis, and begs the physicians of Boston to aid him in securing such. About two fluid ounces, — the more the better, — with a statement of the age of the woman, is desired, number of previous confinements, weight and food of child (if any food but breast milk is given), time of last nursing, from which breast sample is obtained. If any one will send word to the undersigned by mail a messenger will be sent for sample, and a copy of analysis furnished if desired.

H. C. HAVEN, M. D., 19 EXETER ST., BOSTON.

BOOKS AND PAMPHLETS RECEIVED. — The Principles and Practice of Gynecology. By Thomas Addis Emmet, M. D., etc., etc. Third Edition, thoroughly Revised. With 150 Illustrations. Philadelphia: Henry C. Lea's Son & Co. 1884.

Asiatic Cholera as it appeared at Suspension Bridge, Niagara County, N. Y., in July, 1854, and its Lessons. What we Know of the Cholera. By Frank H. Hamilton, M. D. (Reprint.)

Transactions of the New Hampshire Medical Society at its Ninety-Fourth Annual Session. Held at Concord, June 17–18, 1884.

Proposed Plan for a Sewerage System, and for the Disposal of the Sewage of the City of Providence. By Samuel M. Gray, City Engineer. Made by order of the City Council of Providence. 1884.

Transactions of the Maine Medical Association. 1884. Vol VIII. Part II. Portland, Me. 1884.

Muriate of Cocaine in Ophthalmic Surgery. By C. J. Lundy A. M., M. D., Professor of Diseases of Eye, Ear, and Throat in the Michigan College of Medicine. (Reprint.)

The Dry Treatment of Chronic Suppurative Inflammation of the Middle Ear. By Charles J. Lundy, A. M., M. D. Detroit. (Reprint.)

Fifth Annual Report of the State Board of Health, Lunacy, and Charity of Massachusetts. Supplement Containing Report and Papers on Public Health. Boston. 1884.

Elements of Surgical Diagnosis. By A. Pearce Gould, M. S., M. B. Lond., F. R. C. S. Eng. London: Cassell & Co.

A Manual of Dissection of the Human Body. By Luther Holden, Late President of the Royal College of Surgeons of England. Fifth Edition. Edited by John Langton. With over Two Hundred Illustrations. Philadelphia: P. Blakiston, Son & Co. 1885.

A Manual of Bandaging. Adapted for Self-Instruction. By C. Henri Leonard, A. M., M. D., Professor of the Medical and Surgical Diseases of Women and Gynæcology, Michigan College of Medicine, etc. With One Hundred and Thirty-Nine Engravings. Second Edition. Revised and Enlarged. Detroit: Published by the Illustrated Medical Journal Company.

Membrana Virginitatis. By E. S. McKee, M. D., Late Clinical Assistant Hospital for Sick Children, London. (Reprint from Nashville Journal of Medicine and Surgery. November, 1884.

Concerning the Climate of New Mexico. By W. Thornton Parker, M. D. (Munich), Acting Assistant Surgeon, U. S. A (Reprint.)